SAMSUNG

SyncMaster 711LT/ 911LT

Model [▼]

Adobe Reader

Manual

Regulatory

SyncMaster

Install drivers

▶ ▶ **Microsoft Windows**

Install programs

▶ ▶ **Natural Color**

▶ ▶ MagicTune **MagicTune™**

The color and appearance of the product may vary depending on the model, and the product specifications are subject to change without prior notice for reasons of performance enhancement.

O   Safety Precautions

Notation   Power   Installation   Cleaning and Using   Others

▶ Notation

These safety instructions must be followed to ensure your safety and prevent property damage. Make sure to read the instructions carefully and use the product in the correct manner.

⚠ Warning / Caution

Failure to follow directions noted by this symbol could result in bodily harm or damage to the equipment.

❗ Notational Conventions

🚫	Prohibited	❗	Important to read and understand at all times
🚫	Do not disassemble	✋	Disconnect the plug from the outlet
🚫	Do not touch	⏚	Ground to prevent an electric shock

Notation   Power   Installation   Cleaning and Using   Others
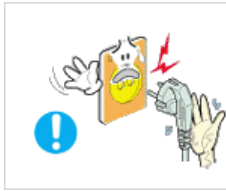
▶ Power

When not used for extended period of time, set your computer to DPM.
If using screen saver, set it to active screen mode.
The images here are for reference only, and are not applicable in all cases (or countries).
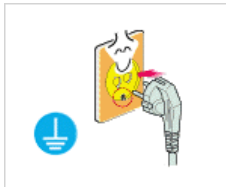
Shortcut to Anti-Afterimage Instructions ▶

▶ Do not use a damaged power cord or plug or a damaged or loose power outlet.

▶ Otherwise, this may result in electric shock or fire.

▣ Do not touch the power plug with wet hands when removing or plugging the plug into the outlet.
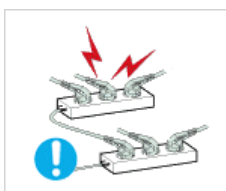
   ▶ Otherwise, this may result in electric shock.

▣ Make sure to connect the power cord to a grounded power outlet.

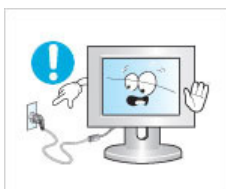   ▶ Otherwise, it may result in electric shock or personal injury.
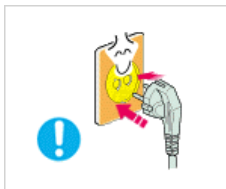
▣ Ensure that the power plug is plugged into the power outlet firmly and correctly.

   ▶ Otherwise, this may result in fire.

▣ Do not forcefully bend or pull the power plug and do not place any heavy material on it.

   ▶ Otherwise, this may result in fire.

▣ Do not connect multiple appliances to the same power outlet.

   ▶ Otherwise, this may cause fire due to overheating.

▣ Do not disconnect the power cord while using the product.

   ▶ Otherwise, this may result in damage to the product due to electric shock.

▣ To disconnect the apparatus from the mains, the plug must be pulled out from the mains socket, therefore the mains plug shall be readily operable.

   ▶ This may cause electric shock or fire.

▣ Use only the power cord provided by our company. Do not use the provided power cord of another product.
   ▶ Otherwise, this may result in fire or electric shock.

▶ Installation

⚠ Be sure to contact an authorized Service Center when installing your monitor in a location with heavy dust, high or low temperatures, high humidity, and exposed to chemical substances and where it operates for 24 hours such as at airports, train stations etc.

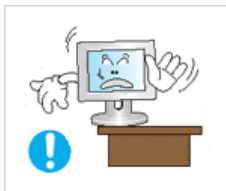Failure to do so may cause serious damage to your monitor.

🔲 Do not drop the monitor when moving it.

▸ This may cause damage to the product or the person carrying it.

🔲 Ensure that at least two persons lift and move the product.

▸ Otherwise, it may be dropped and cause personal injury, and/or damage the product.

🔲 When installing the product in a cabinet or rack, make sure that the front end of the bottom of the product does not project out.
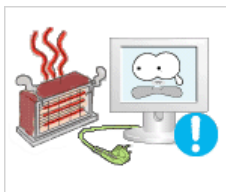
▸ Otherwise, it may fall or cause personal injury.
▸ Use a cabinet or rack of a size appropriate to the product.

🔲 DO NOT PLACE CANDLES, MOSQUITO REPELLANT, CIGARETTES AND ANY HEATING APPLIANCES NEAR THE PRODUCT.
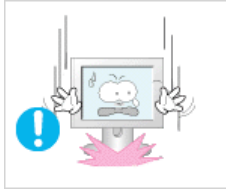
▸ Otherwise, this may result in fire.

🔲 Keep heating appliances as far away from the power cord or the product as possible.

▸ Otherwise, this may result in electric shock or fire.

🔲 Do not install it in a badly ventilated location such as a bookcase or closet.

▸ Otherwise, this may result in fire due to an increase in the internal temperature.

Put down the monitor carefully.

▶ Failing to do so may damage the monitor.

Do not place the front of the product on the floor.

▶ Otherwise, this may result in damage to the screen display.

Ensure that an authorized installation company installs the wall mount.

▶ Otherwise, it may fall and cause personal injury.
▶ Make sure to install the specified wall mount.

Install your product in a well ventilated location. Ensure that there is a clearance of more than 10 cm from the wall.

▶ Otherwise, it may result in fire due to an increase in the internal temperature.

Ensure that the packaging vinyl is kept away from children.

▶ Otherwise, it may result in serious harm (suffocation) if children play with it.
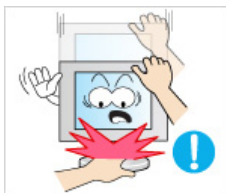
If the height of your monitor is adjustable, do not place any object or part of your body on the stand when lowering it.

▶ This may cause damage to the product or the person carrying it.

Notation   Power   Installation   Cleaning and Using   Others

▶ **Cleaning and Using**

When cleaning the monitor case or the surface of the TFT-LCD screen, wipe with a slightly moistened and soft fabric.

Do not spray cleaner directly onto the surface of the product.

▶ Otherwise, this may result in the discoloration and distortion of the structure and the screen surface may peel off.

Clean the product using a soft cloth with a monitor cleaner only. If you must use a

cleaner other than the monitor cleaner, dilute it with water at a ratio of 1:10.

▣ When cleaning the power plug pins or dusting the power outlet, clean it with a dry cloth.

▶ Otherwise, it may result in fire.

▣ When cleaning the product, make sure to disconnect the power cord.

▶ Otherwise, it may result in electric shock or fire.

▣ When cleaning the product, disconnect the power cord and clean it softly with a dry cloth.

▶ (Do not use chemicals such as wax, benzene, alcohol, thinner, mosquito repellant, lubricant, or cleaner.) These may change the appearance of the product surface and peel off the indication labels on the product.
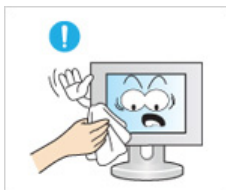
▣ Since the product housing is easily scratched, make sure to use the specified cloth only.

▶ Use the specified cloth adding only a little water. As the product may be scratched if there is any foreign material on the cloth, make sure to shake it thoroughly before using it.

▣ When cleaning the product, do not spray water directly onto the main body of the product.

▶ Ensure that water does not enter the product and that it is not wet.
▶ Otherwise, this may result in electric shock, fire or a malfunction.

Notation   Power   Installation   Cleaning and Using   Others

▶ Others

▣ The product is a high voltage product. Ensure that users do not disassemble, repair or modify the product themselves.

▶ Otherwise, this may result in electric shock or fire. If the product needs to be repaired, contact a Service Center.

▣ If there is a strange smell or a strange sound or smoke is coming from the product, disconnect the power plug immediately and contact a Service Center.

▶ Otherwise, this may result in electric shock or fire.

Do not place this product in a location exposed to moisture, dust, smoke, water, or in a car.

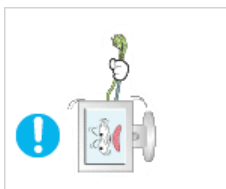▶ Otherwise, this may result in electric shock or fire.

When you drop the product or the case is broken, turn the power off and disconnect the power cord. Contact a Service Center.

▶ Otherwise, this may result in electric shock or fire.

If thunder or lightening is occurring, do not touch the power cord or antenna cable.

▶ Otherwise, this may result in electric shock or fire.

Do not try to move the monitor by pulling only the wire or the signal cable.

▶ Otherwise, it may fall and result in electric shock, damage to the product or fire due to damage to the cable.

Do not lift or move the product back and forwards or right and left while only holding the power cord or signal cables.

▶ Otherwise, it may fall and result in electric shock, damage to the product or fire due to damage to the cable.
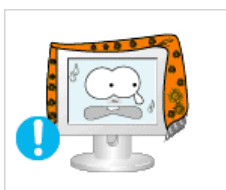
Make sure that the ventilating opening is not blocked by a table or curtain.

▶ Otherwise, it may result in fire due to an increase in the internal temperature.
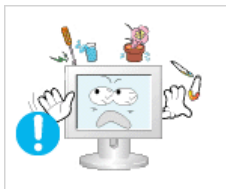
Do not place any containers containing water, vases, flowerpots, medicines as well as any metal on the product.

▶ If water or a foreign material enters the product, disconnect the power cord and contact a Service Center.
▶ This may result in a product malfunction, electric shock, or fire.

Do not use or keep combustible spray or flammable material near the product.

▶ Otherwise, this may result in an explosion or fire.

Do not insert any metal, such as chopsticks, coins, pins and steels, or inflammable objects, such as matches or paper, inside the product (through the ventilating openings, input and output terminals, etc).

▶ If water or foreign material enters the product, disconnect the power cord and contact a Service Center.

▶ Otherwise, this may result in electric shock or fire.

When using a fixed screen for a long time, an afterimage or stain may occur.

▶ If you are not using your product for a long period of time, put it into sleep mode or use a moving screen saver.

Set a resolution and frequency appropriate to the product.

▶ Otherwise, your eyesight may be damaged.

When using headphones or earphones, do not turn the volume too high.

▶ Having the sound too loud may damage your hearing.
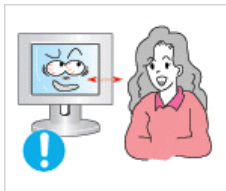
If you continually move closer to the product screen, your eyesight may be failingt.
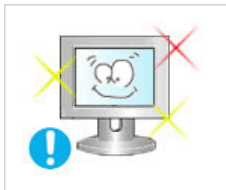
To ease eye strain, take at least a five-minute break after every hour of using the monitor.

Do not install it in an unstable location such as an unstable rack or uneven surface or a location exposed to vibrations.

▶ Otherwise, it may fall and cause personal injury and/or damage the product.
▶ If you use the product in a location exposed to vibrations, it may damage the product and result in fire.
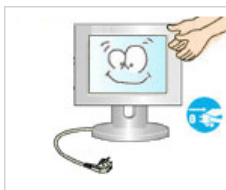
When moving the product, turn the power off and disconnect the power plug, antenna cable, and all the cables connected to the product.

▶ Otherwise, it may result in electric shock or fire.

Ensure that children do not hang onto the product or climb up onto the product.

▶ The product may fall and cause personal injury or death.
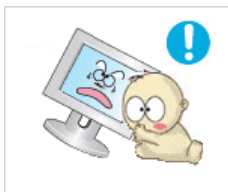
If you do not use the product for a long period of time, disconnect the power cord from the power outlet.

▶ Otherwise, this may result in overheating or fire due to dust, and may result in fire due to electric shock or leakage.

Do not place any heavy items or toys or confectionery, such as cookies etc. that may attract the attentions of children onto the product.

▶ Your children may hang onto the product causing it to fall and this may result in personal injury or death.

Do not turn the product upside down or move it while holding only the stand.

▶ Otherwise, it may fall and result in personal injury and/or damage to the product.
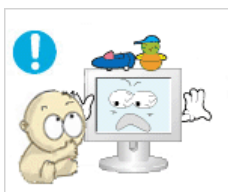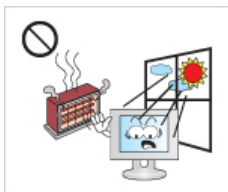
Do not place the product in a location exposed to direct sunlight or near any heat such as a fire or heater.

▶ This may reduce the lifetime of the product, and may result in fire.
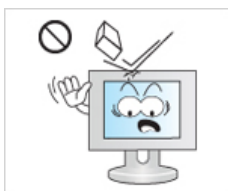
Do not drop any objects onto the product or cause any impact to the product.

▶ Otherwise, this may result in electric shock or fire.
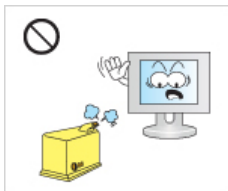
Do not use a humidifier or kitchen table near the product.

▶ Otherwise, this may result in electric shock or fire.

When there is a gas leak, do not touch the product or the power plug but ventilate immediately.

▶ If a spark occurs, it may cause an explosion or fire.

If the product has been turned on for a long time, the display panel becomes hot. Do not touch it.

▶ Keep the small accessories in a location out of the reach of children.

Be careful when adjusting the angle of the product or the height of the stand.

- This may result in personal injury as your hand or fingers may become caught.
- Also, if you tilt the product too far, it may fall and cause personal injury.

Do not install the product in a location low enough for children to reach.

- Otherwise, it may fall and result in personal injury.
- Since the front part of the product is heavy, install the product on a level and stable surface.

Do not put any heavy objects on the product.

- This may result in personal injury and/or damage to the product.

Proper Seating Posture During Monitor Use

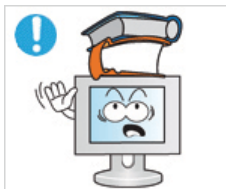When using the product, use it in the correct position.

- Keep your back straight while looking at the product.
- The distance between your eyes and the screen should be between 45 to 50 cm. Look at the screen from a slightly higher location than the height of the screen.
- When using the product, use it in the correct position.
- Adjust the angle so that light is not reflected on the screen.
- Place your arms perpendicular to your sides and allow your arms to be level with the back of the hand.
- Keep your elbow at 90 degrees.
- Keep your knees at greater than 90 degrees, and keep your heels firmly on the floor. Keep your arms lower than your heart.

Correct Disposal of This Product
(Waste Electrical & Electronic Equipment) - Europe only

(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and

conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

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O Introduction

Features   Package Contents   Your Monitor

▶ Features

※ Tuning the power off while booting up a Client may damage the monitor In addition, exit all running programs before turning the monitor off.

▷ What is Client Monitor?
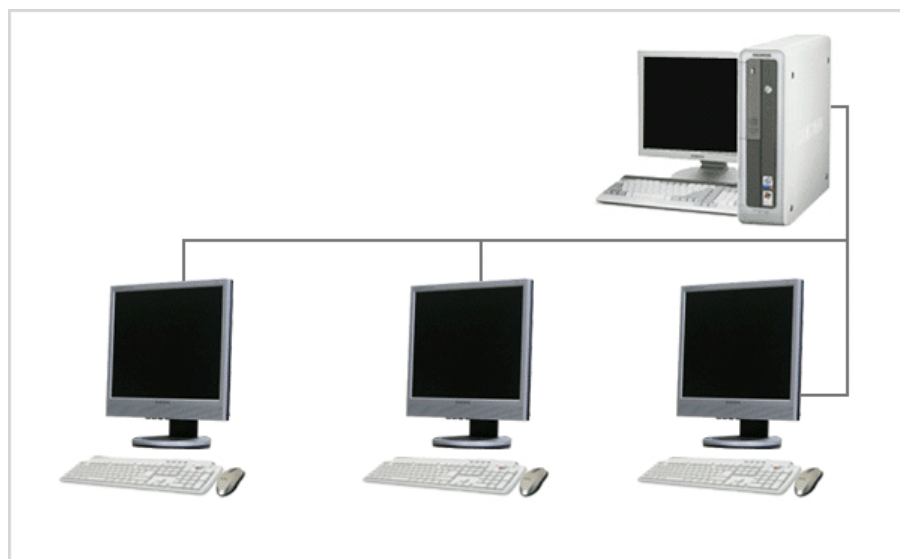
▷ Client Monitor is a new type of monitor that can be used as a general monitor and can also be used as a terminal by connecting it to a host PC with a LAN connection so that you can use a Client Monitor to access the Internet, create a document and edit an image file.
In addition, you can connect an external storage device (e.g. DSC, MP3, external storage, etc.) to the USB port and enjoy music, video and games saved on the device.

▷ Moreover, you can display your screen on another display device such as a projector through the VGA OUT port so that the monitor can be utilized for various purposes such as video conferences, joint-work, etc.

▷ In addition, since Win CE is integrated within the monitor, you can search the Internet or USB memory independently without connecting it to the host PC.

Features   Package Contents   Your Monitor

▶ Package Contents

Please make sure the following items are included with your monitor.
If any items are missing, contact your dealer.
Contact a local dealer to buy optional items.

▶ Unpacking

Without stand

With Stand

▶ Manual

Quick Setup Guide

Warranty Card
(Not available in all
locations)

User's Guide, Monitor Driver,
Natural Color software,
MagicTune™ software

▶ Cable

Power Cord

▶ Sold separately

Keyboard (USB)

Mouse (USB)
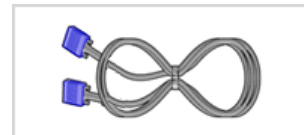
D-Sub Cable

Features   Package Contents   Your Monitor

▶ Your Monitor

▶ Front
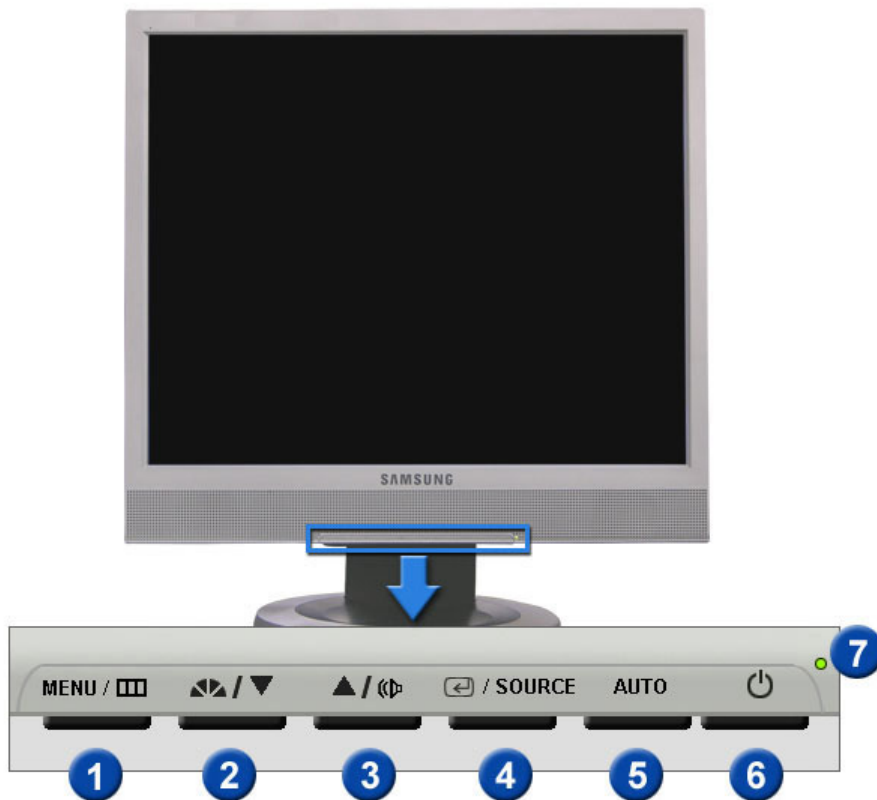
①   MENU button [▥]   Opens the OSD menu. Also use to exit the OSD menu or return to the previous menu.

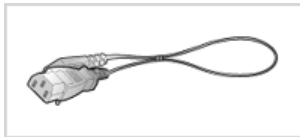②   MagicBright™ button [▨]   MagicBright™ is a new feature providing optimum viewing environment depending on the contents of the image you are watching. Currently six different modes are available : Custom, Text, Internet, Game, Sport and Movie. Each mode has its own pre-configured brightness value. You can easily select one of six settings by simply pressing MagicBright™ control button.

        1) Custom
           Although the values are carefully chosen by our engineers, the pre-configured values may not be comfortable to your eyes depending on your taste.
           If this is the case, adjust the brightness and contrast by using the OSD menu.

        2) Text
           For documentations or works involving heavy text.

        3) Internet
           For working with a mixture of images such as text and graphics.

        4) Game
           For watching motion pictures such as a game.

        5) Sport
           For watching motion pictures such as a sport.

        6) Movie
           For watching motion pictures such as a DVD or Video CD.

        >> Click here to see an animation clip

③   Volume button [◖◗]   When OSD is not on the screen, push the button to adjust volume.

②,③   Adjust buttons [▼/▲]   Adjust items in the menu.

④   Enter button [⏎] / SOURCE button   Activates a highlighted menu item. /
Push the 'SOURCE', then selects the video signal while the OSD is off. (When the SOURCE button is pressed to change the input mode, a message appears in the upper left of the screen displaying the current

mode -- Analog or Client input signal.)
>> Click here to see an animation clip

⑤ AUTO button — Use this button for auto adjustment.
>> Click here to see an animation clip

⑥ Power button [⏻] — Use this button for turn the monitor on and off.
※ Be careful as pressing the Power button in client mode will shut down Windows XPe. Be careful that if you force shut down Windows it may cause damage.

In these cases your monitor will be forcefully shut down and this may cause damage to your operating sysetm. Therefore ensure that the EWF function is enabled.
1. Turn the power off by holding down the Power button after switching to Monitor mode from Client mode.
2. Turn the power off by holding down the Power button for more than five(5) seconds in Client mode.
When unable to boot up your computer because of a Windows crash, please contact your Administrator.

⑦ Power indicator — This light glows green during normal operation, and blinks green once as the monitor saves your adjustments.

※ See PowerSaver described in the manual for further information regarding power saving functions. For energy conservation, turn your monitor OFF when it is not needed, or when leaving it unattended for long periods.

◘ **Rear**
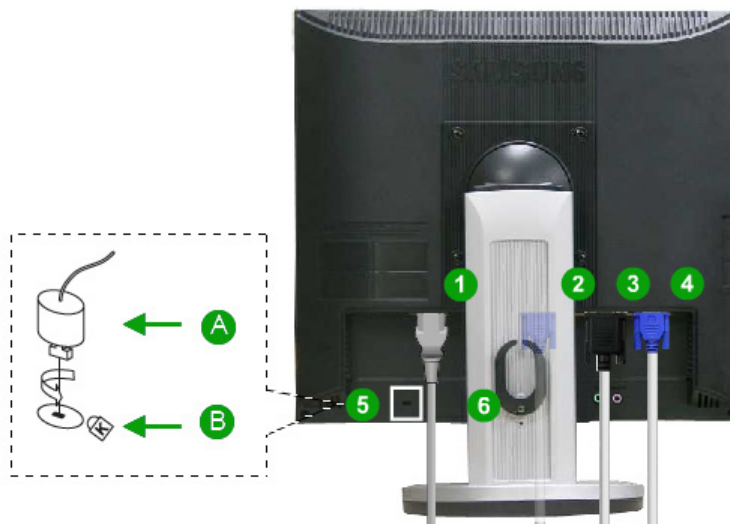
※ The configuration at the back of the monitor may vary from product to product.

① POWER IN port — Connect the power cord for your monitor to the power port on the back of the monitor.

② VGA IN port — Connect the signal cable to the 15-pin, D-sub port on the back of your monitor.

③ RS-232C Connection Terminal — Connect a RS-232C cable to this terminal.

④ VGA OUT port — Connect a monitor to another monitor through a D-Sub cable.

⑤ Kensington Lock — The Kensington Lock is a device used to physically fix the system when using it in a public place. The locking device has to be purchased separately. The appearance and locking method may differ from the illustration depending on the manufacturer. Refer to the manual provided with the Kensington Lock for proper use. The locking device has to be purchased separately.
※ The location of the Kensington Lock may be different depending on its model.

Using the Anti-Theft Kensington Lock
1.
  Insert the locking device into the Kensington slot on the Monitor (**Ⓑ**)

and turn it in the locking direction (Ⓐ).

2. Connect the Kensington Lock cable.
3. Fix the Kensington Lock to a desk or a heavy stationary object.

❻ Cable Fix Ring   When connecting the cable is finished, fix the cables to the Cable Fix Ring.
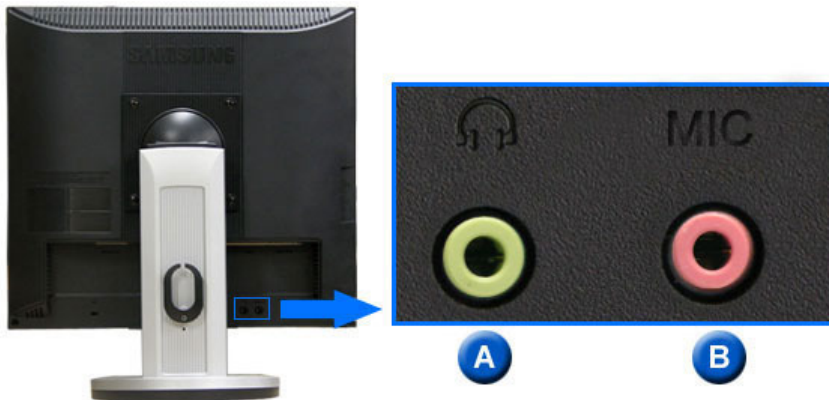
Ⓐ	Earphone jack [🎧]	Headphone connection terminal.
Ⓑ	The Microphone connection terminal (MIC)	Connect a microphone to the MIC terminal.
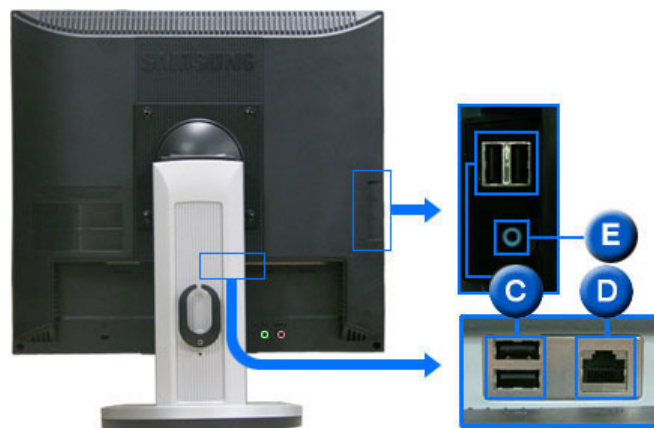
Ⓒ	🔌 USB (USB Connection Terminal)	Connect USB devices such as a mouse, keyboard and external storage devices (DSC, MP3, external storage, etc.).
Ⓓ	LAN (LAN Connection Terminal)	Connect when using it as a monitor.
Ⓔ	AUDIO IN	Connect the audio cable for your monitor to the audio port on the back of your computer.

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O   Connections

Connecting Cables   Using the Stand   Using Other Stands

▶ Connecting Cables

◘ Connecting Cables (When used as a normal monitor)

❶   Connect the power cord for your monitor to the power port on the back of the monitor.
Plug the power cord for the monitor into a nearby outlet.

❷   Use appropriate connection for your computer.

2-1   Using the D-sub (Analog) connector on the video card.
- Connect the D-Sub Cable to the VGA IN port on the back of your monitor.

[VGA IN]

2-2   Using Macintosh
- Connect the monitor and the Macintosh computer using the computer connection cable.

※   If the monitor and the computer are connected, you can turn them on and use them.

◘ External Device Connection
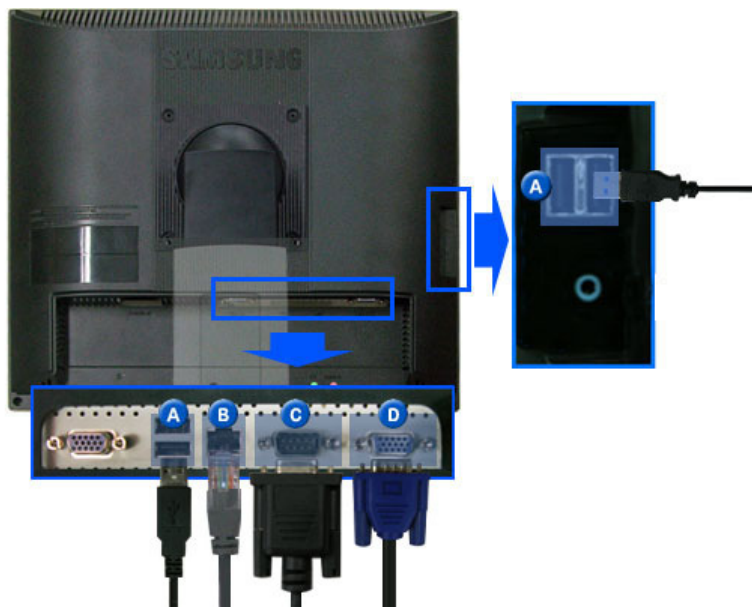
A	⟵ USB (USB Connection Terminal)	Connect USB devices such as a mouse, keyboard and external storage devices (DSC, MP3, external storage, etc.).
B	LAN (LAN Connection Terminal)	Connect the LAN cable.
C	RS-232C Connection Terminal	Connect a RS-232C cable to this terminal.
D	D-sub 15-pin port [VGA OUT]	Use it by connecting it to another monitor. (The picture of the main monitor is displayed on the connected monitor.)

Connecting Cables   Using the Stand   Using Other Stands

▶ Using the Stand

◘ Tilt angle

※ You can tilt the monitor screen forward to adjust the angle to a particular angle.

◘ Swivel stand

※ You can easily adjust the position of the monitor screen from right to left using the rotating stand. Rubber stubs are attached at the bottom of the monitor to help fix it to the installation location.

Connecting Cables   Using the Stand   Using Other Stands

▶ Using Other Stands

▶ Attaching a Base

※ This monitor accepts a 100 mm x 100 mm VESA-compliant mounting interface pad.

Ⓐ Monitor   Ⓑ Mounting interface pad (Sold separately)

❶ Turn off your monitor and unplug its power cord.

❷ Lay the LCD monitor face-down on a flat surface with a cushion beneath it to protect the screen.

❸ Remove four screws and then remove the stand from the LCD monitor.

❹ Align the mounting interface pad with the holes in the rear cover mounting Pad and secure it with four screws that came with the arm-type base, wall mount hanger or other base.

⚠
- Do not use screws longer than the standard dimension, as they may damage the inside of the Monitor.
- For wall mounts that do not comply with VESA standard screw specifications, the length of the screws may differ depending on their specifications.
- Do not use screws that do not comply with the VESA standard screw specifications.
  Do not fasten the screws too tightly, as this may damage the product or cause the product to fall, leading to personal injury.
  Samsung is not liable for these kinds of accidents.
- Samsung is not liable for product damage or personal injury when a non-VESA or non-specified wall mount is used or the consumer fails to follow the product installation instructions.

- To mount the monitor on a wall, you should purchase the wall mounting kit that allows you to

mount the monitor at least 10cm away from the wall surface.

- Contact the nearest Samsung Service Center for more information. Samsung Electronics will not be responsible for damages caused by using a base other than those specified.
- **Please use Wall Mount according to the International standards.**

The color and appearance of the product may vary depending on the model, and the product specifications are subject to change without prior notice for reasons of performance enhancement.
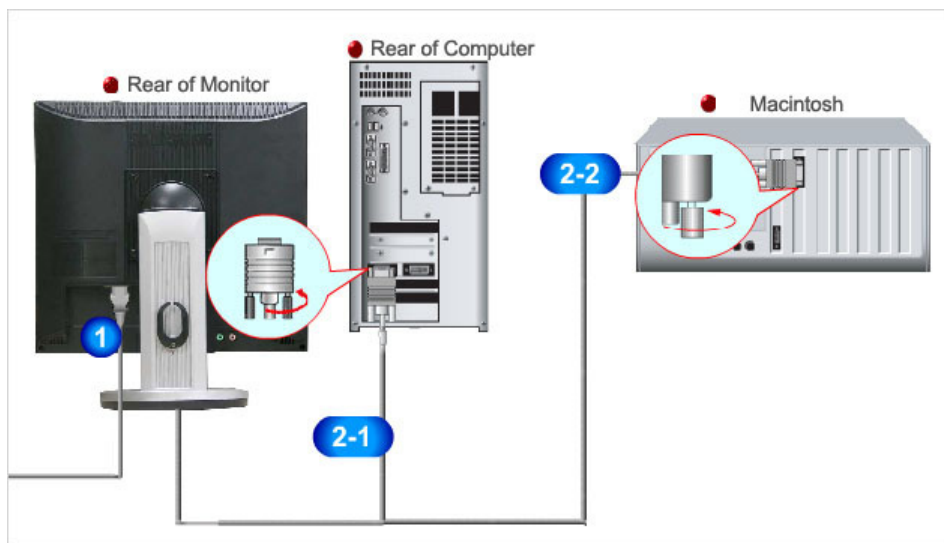
○ Using Linux

Introduction	Quick Overview of Supported Features	Boot Procedure	Control Center (Global Settings)	Application Programs	Shutdown

▶ Introduction

◘ Welcome

Congratulations on purchasing one of the Samsung Linux-based Thin Client models. The Samsung Thin Clients are composed of state-of-the-art hardware and an operating system based on the Samsung Flash Linux Technology. We have done our best to deliver an excellent product and we promise to provide support and service of the same quality.

Please refer to the "Software Feature Comparison List" to get an overview of the supported software features and protocols of the different Samsung Thin Client models.

◘ How to Use This Guide

In this STC User Guide we describe the setup screens and options as well as the boot procedure. We do not describe common functionalities like TCP/IP, NFS, SMB, XDMCP, DHCP, and BOOTP, etc. If you have any questions concerning these matters please ask your system administrator or, if you would like to know more about protocols, please refer to the corresponding documentation.

Introduction	Quick Overview of Supported Features	Boot Procedure	Control Center (Global Settings)	Application Programs	Shutdown

▶ Quick Overview of Supported Features

◘ List of Supported Features in STC Linux

Feature Name	711 LT	911 LT
Citrix ICA	9	9
RDP	Rdesktop	Rdesktop
VNC Client	Real VNC	Real VNC
VNC Server	x11vncserver	x11vncserver
Xorg	7.2	7.2
Samba Support	Yes	Yes
NFS Support	Yes	Yes
XDMCP	Yes	Yes
Printer Support	Thin Print, USB, Network Printer (Postscript)	Thin Print, USB, Network Printer (Postscript)
Mozilla Firefox	1.0	1.0
PDF Reader	Xpdf	Xpdf
Terminal Emulator	Xterm	Xterm

PXE Network Boot Support	Yes	Yes
SSH	Yes	Yes
DHCP	Yes	Yes
DPMS	Yes	Yes
Screen Saver	Yes	Yes
USB Mass Storage	Yes	Yes
File Browser	EmelFM2	EmelFM2
Smart Card Support	Yes	Yes
Icewm	1.2.32	1.2.32
Thin Print	Yes	Yes

Introduction	Quick Overview of Supported Features	Boot Procedure	Control Center (Global Settings)	Application Programs	Shutdown

Boot Procedure

System BIOS

The BIOS looks for extensions in the appropriate memory area. The next step is the execution of the master boot record, which starts a secondary stage loader.

Secondary Stage Loader and Boot Menu

The secondary stage loader provides the user with a boot menu. The boot option can be selected by using arrow keys and then made to run by using the enter key. By default, the STC boots into the default choice after the specified timeout. You can then choose between 2 boot options and the option of starting the Thin Client in its factory defaults safe mode.

- Normal Boot
  - Silent Boot
  - Verbose Boot

- Safe Boot

① Normal Boot
- Silent Boot
  "Silent Boot" is the standard boot mode; it suppresses all messages from the kernel and starts up the graphical desktop. It displays a progress bar along with a text message when major checkpoints in the boot process are reached.
- Verbose Boot
  If the "Verbose Boot" is chosen (by pressing the key "F2"), the boot messages are shown and there will be a detailed display of the boot process and its execution.

② Safe Boot
If you choose "Safe Boot" (setup only with standard parameter values), the secondary stage loader looks for a bootable system in the flash and continues the boot process as in the other boot modes. It basically does booting with a default X-server configuration without the bootsplash screen. This method will restore your display settings to default in main boot. This method is very useful in case you need to restore corrupted display to restore to the original settings of the system. Please beware that all your display related custom settings will get changed.

Networking

After loading the kernel the network configuration follows. Two different ways can be chosen to include the terminal in the network environment. According to the settings of the terminal, DHCP broadcast or manual configured IP address can be used for this purpose.

X-Server

The last step of the boot procedure is the start of the X-Server and the local window manager. Once the boot procedure completes, a desktop will be displayed on the screen as shown below.
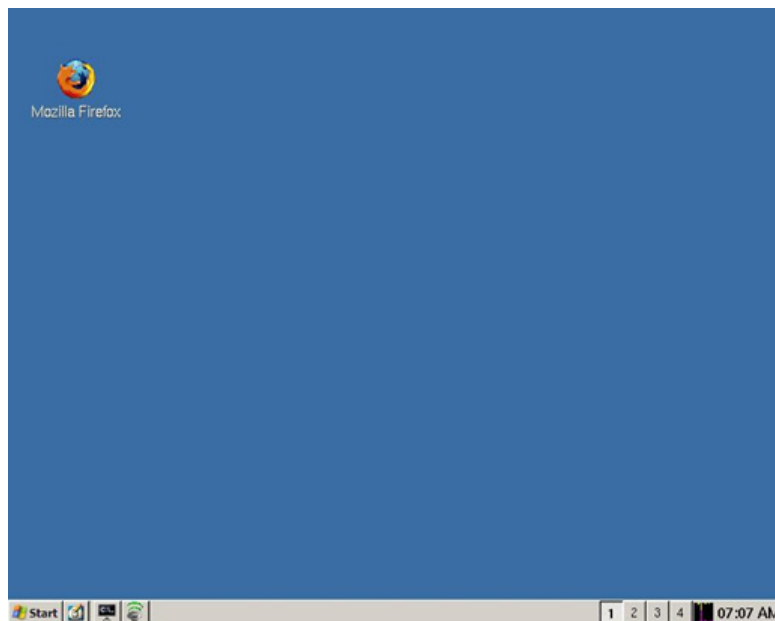
▶ Control Center (Global Settings)

◼ Starting the Control Center

Once the STC boots up, you have the option to set the STC as per your choice using the settings provided in the Control Panel. The Control Panel can be accessed using two methods.

From the start menu
Select the Settings option from the Start Menu. You can set up your STC using the options provided in the Settings tab. The various setting options provided are

- Display
- Input
- Printer
- Network
- Time
- System
- Upgrade

The following figures demonstrate how to open the Control Panel from the Start Menu.

- Click on the Start button.
- Choose Settings tab.
- Select any one of the 7 options (as shown below), to open the Control Panel Settings for the particular option selected.
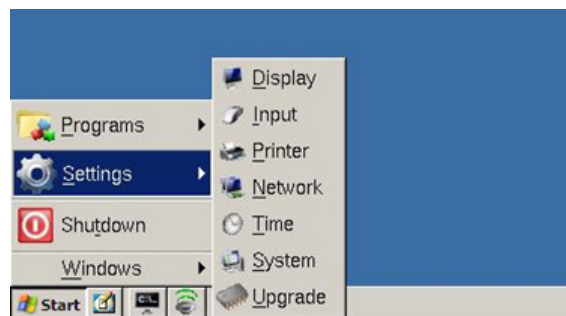
◼ Display

The Display Tab has five options that can be changed.
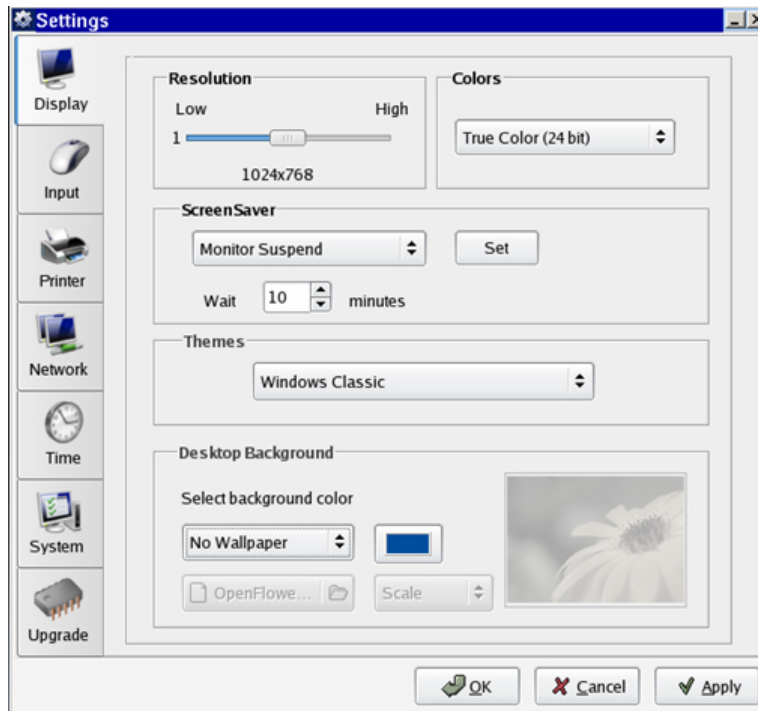
❶ Resolution
It can be set to any one of the following screen size.

- **800 x 600**
- **1024 x 768**
- **1280 x 1024**

❷ Color
It can be set to any one of the following color depths.

- **8 bit** (Low Color / 256 Colors)
- **16 bit** (High Color / 65,535 Colors)
- **24 bit** (True Color / 16.7 Million Colors)

❸ Screen Saver
It can be set to any one of following types with Waiting Time.

- **None** : In this, the screensaver option is disabled. This is the default choice.
- **Floating** : In this, a bitmap image is used as the screensaver by making the image to float all over on the monitor background once the system is left idle for the specified screensaver timeout.
- **Monitor Suspend** : This is the energy saving phase wherein the monitor is left blank once the screensaver timeout is exceeded.

Along with this, you can also set the waiting time before the screen saver is activated.

❹ Themes
We can set the theme of the overall system among the three available options.

- Vista Black
- IceBuntu
- Windows Classic

❺ Background
The background can be specified either by specifying wallpaper or letting the theme deciding the background color. The wallpaper can be set in three formats.

▶ Input

❶ Mouse
▷ Button Configuration
Set the type of the attached mouse device from these two options:

- **Left Handed -** Changes the orientation of the mouse to left hand by swapping the mouse buttons.
- **Right Handed -** Changes the orientation of the mouse to left hand by swapping the mouse buttons.

▷ Pointer Speed
The mouse pointer speed can be changed using this option. The default speed is set as 5. It can be set as to be anywhere between 0.0 and 20.0, with the pointer tip speed increasing with increasing value.

❷ Keyboard
The keyboard settings can be used to configure the keyboard attached to the Samsung Thin Client.

◘ **Keyboard Type**
Choose your keyboard type from the available options from the drop box.
◘ **Character Repeat**
In this section you can set the auto repeat behavior for the keyboard:

- **Repeat delay: -** Sets the delay time (in relative value) between pressing a key and the start of the auto repeat mode.
- **Repeat rate: -** Sets the number of repeated characters per second (relative scale).

◘ **At Boot Option**
This sub-menu has three options to be set

- **Num Lock**: - Enable this if Num Lock is to be activated after reboot.
- **Caps Lock**: - Enable this if Caps Lock is to be activated after reboot.
- **Scroll Lock**: - Enable this if Scroll Lock is to be activated after reboot.
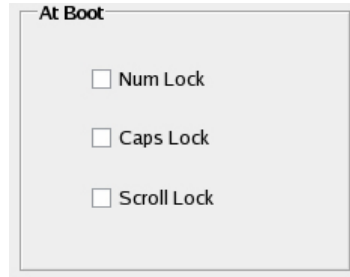
▶ **Printer**

Here you can configure the printer to the settings you want. The available options are

- **Add: -** Here you can add a printer to your already configured settings.
- **Modify: -** Here you can modify an earlier configured printer settings.
- **Delete: -** Here you can delete an existing printer setting.
- **Set Default: -** Here you can select a printer as the default printer for your STC.

※ For more information regarding "ThinPrint" components, please refer to your "ThinPrint" manual.

▶ **Network**

❶ **Network Adaptor**
This menu allows you to configure the network settings for the STC. The available options here are
◘ **Network Adaptor**
This drop down menu lists the available Ethernet cards for the STC. By default, eth0 is the chosen Ethernet card, but can be changed after the first boot. There is a check box at the bottom of the Network Adapter option which can be used to enable or disable the network connection.
◘ **Setting IP Information**
- **Get IP From DHCP Server :** This option enables the STC to automatically fetch an IP from the local DHCP Server connected to it. It automatically sets all the information regarding IP, Subnet Mask, Gateway Address and DNS Server IP.
- **Specify An IP Address :** This option enables you to manually set an IP for your STC. Here you have to set the IP Address to be used by the STC, its Subnet Mask and Default Gateway address. Apart from these, the Primary DNS Server IP, and if needed, the Secondary DNS Server IP, are also required to be set if the STC is supposed to be connected to the internet.
- On successful completion of the network activation process, the network activation window will be closed on its own and will return to the ControlCenter.
◘ **Setting DNS Server Information**
- **Get DNS Server Address automatically :** This option enables the STC to automatically fetch the DNS Server Address from the local DHCP Server connected to it.
- **Specify DNS Server Address :** This option enables you to manually set the DNS Server Address for your STC. Here you have to manually set the Primary DNS Server IP, and if needed, the Secondary DNS Server IP, for Internet access.
❷ **NFS**
NFS (Network File System) enables you to share files via the network. The NFS server exports a file system, and the NFS client (Samsung Thin Client) associates this to a mount point of its own file system. So afterwards the exported file system will be a logical part of the Samsung Thin Client's file system, while it physically remains on server side.
To set up NFS mount, the server has to be configured first. For detailed information about "NFS", refer to the corresponding "man pages" of your server operating system.
◘ **Add NFS Mount**

Click "Add..." to open the "Add NFS Mount" dialog-box with following options

- **Server: -** Enter the name or the IP address of the NFS server that provides the share.
- **Directory: -** Enter the directory name as it is exported by the NFS server.
- **Mount Point: -** Specify "Mount Point" where the NFS shared directory can be mounted in local file system of the STC.
- **Permission: -** Enter the permission for the NFS Mount to be "Read-Only" or "Read/Write".

- **Session Name: -** Enter the name for the session to be saved or loaded.
- **Load / Save / Delete: -** For loading, saving or deleting a saved session from memory.
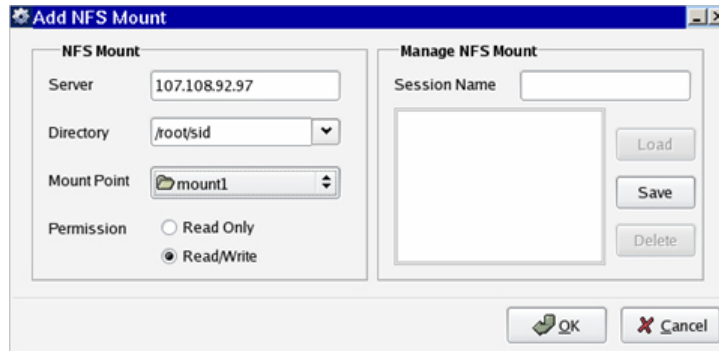
It is possible to select/create a new/existing mount point using the Control Centre dialog boxes itself. The process is described here along with figures.

- First the IP address of the NFS server is given.
- It automatically lists all the directories shared on that NFS server which can be seen like this.
- Then the directory where the share has to be mounted is selected.
- Then a new empty directory is created and named accordingly.
- Then the folder created is selected and then it becomes the new mount point, where the NFS share directory will be mounted.

▶ **Save NFS Mount Settings**
Enter a name to save the NFS settings and click "Save" to save the settings.

▶ **Load NFS Mount Settings**
Select the saved settings to be loaded. Click "Load" to load the settings.

▶ **Delete NFS Settings**
Select the saved settings to be deleted. Click "Delete" to delete the settings.

▶ **Modify NFS Mount**
Click "Modify..." to open the "Modify NFS Mount" dialog-box to modify an existing NFS Mount with following options (see figure).

▶ **Delete NFS Mount**
Click "Delete" to open the "Remove NFS Mount" dialog-box with the text message "Are you sure you want to delete NFS Mount ". The following options are provided.

❸ **Samba**
The Samba, or SMB, protocol is very useful because it is used by Microsoft Windows NT, Windows 95/98, Windows 2000 and Window XP to share disks and printers. So as Unix (including Linux) can also handle this protocol with the Samba suite tools, it is possible to share disks and printers with Windows hosts.
So it is possible on the Thin Client to mount SMB shares from Windows or Unix Samba hosts. The SMB (Server Message Block) protocol is only used for sharing files over the network (no printers). It is necessary that the shares you want to mount be created on the Windows or Unix host first!

▶ **Add Samba Mount**

Click "Add..." to open the "Add Samba Mount" dialog-box with following options

- **Server: -** For a Windows host, the NetBIOS name has to be entered here. In the case of a Unix samba host, the host name or IP address is to be entered.
- **User Name: -** Enter the user name of your account on the Windows or Unix samba host.
- **Password: -** Enter the password of your account on the Windows or Unix samba host.
- **Domain: -** Enter domain name of your account on the Windows or Unix samba host.
- **Directory: -** Enter directory name as it is exported by the Windows or Unix samba host.
- **Mount Point: -** Specify the "Mount Point" where the share should be mounted in local file system of the Thin Client.
- **Permission: -** Enter the permission for Samba Mount to be "Read-Only" or "Read/Write", based on the properties of the Samba share provided by the Windows or Unix samba host.
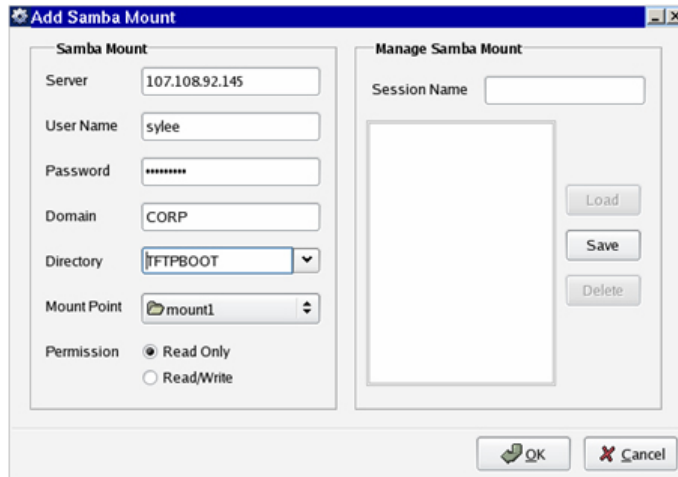
It is possible to select/create a new/existing mount point using the Control Centre dialog boxes itself. The process is described here along with figures.

- First the IP address of the Samba server is given.
- It automatically lists all the directories shared on that Samba server which can be seen as shown in the figure below.
- Then the directory where the share has to be mounted is selected.
- Then a new empty directory is created and named accordingly.
- Then the folder created is selected and then it becomes the new mount point, where the Samba share directory will be mounted.

▶ **Save Samba Mount Settings**
Enter a name to save the Samba settings and click "Save" to save the settings.

▶ **Load Samba Settings**
Select the saved settings to be loaded. Click "Load" to load the settings.

▶ **Delete Samba Settings**
Select the saved settings to be deleted. Click "Delete" to delete the settings.

▶ **Modify Samba Mount**
Click "Modify..." to open the "Modify Samba Mount" dialog-box to modify an existing Samba Mount with following options

- **Directory: -** Modify the directory name as it is exported by the Windows or Unix samba host.
- **Server: -** The NetBIOS name (Windows host) or host name/IP address (Unix host) is to be modified.
- **Mount Point: -** Modify "Mount Point" where the share should be mounted in local file system.
- **User Name: -** Enter the modified user name of your account on the Windows or Unix samba host.
- **Password: -** Enter the modified password of your account on the Windows or Unix samba host.
- **Domain: -** Enter modified domain name of your account on the Windows or Unix samba host.
- **Permission: -** Modify the permission for the Samba Mount to be "Read-Only" or "Read/Write", based on the properties of the Samba share provided by the Windows or Unix samba host.

▶ **Delete Samba Mount**
Click "Delete" to open the "Remove Samba Mount" dialog-box with the text message "Are you sure you want to delete Samba Mount ". The following options are provided.

🔴 **VNC Server**
This menu allows you to configure a VNC Server on the STC from a VNC Client. The available options here are

▶ **No authentication**
Enabling this option allows anonymous VNC Client to connect to the Thin Client acting as a VNC Server.

▶ **VNC Password Authentication**
Enabling this option allows only authenticated VNC Client to connect to the Thin Client acting as a VNC Server. For this, a password has to be set or modified for authentication purpose. The Client has to enter this password along with proper user name to successfully connect to the server.

▶ **Launch at Startup**
Enabling this option ensures that the Thin Client can act as a VNC Server from the moment the OS boots up.

❺ ICA Global Settings

Citrix® Independent Computing Architecture (ICA)® allows users to connect remotely to servers running Citrix MetaFrame. ICA Client offers quick, secure access to applications, content, and entire desktops published on servers running MetaFrame. ICA separates the user interface from the application while keeping the logic on the server. By doing this, only screen updates, mouse clicks and keystrokes traverse the connection media.

This "*ICA Global Settings*" section describes how to configure the "Global ICA Settings" that will be valid for all ICA sessions.

※ These are the default values for all ICA sessions. Most of these properties (especially color depth, resolution and server IP or name) can be altered for each session separately.

▶ Preferences

The options are self explanatory.
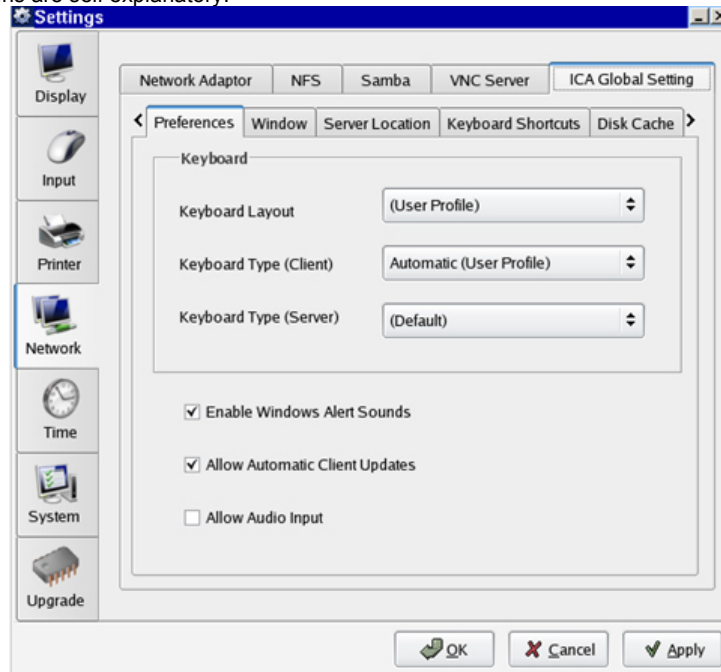
▶ Window

Default Number of Colors

You are allowed to set the default number of window colors to 256 (default), thousands (High Color) or millions (True Color). The color depth your sessions can run in also depends on your Metaframe server.

Resolution

Set the default window size by choosing the resolution from the given list. You can also select the screen size based on percentage of total screen size or Full screen.

▶ Server Location

Server Location

The "Server Location" (also called server browsing) provides a method for a network-connected

Citrix ICA Client to view a list of all Citrix servers and Published Applications that are

accessible on the network and using the chosen browsing protocol.

TCP/IP

If your network configuration uses routers or gateways, or to eliminate additional network traffic by the broadcasts, you can set specific server addresses for the Citrix servers from which the list of available servers and/or published applications should be requested.

※ You can place more than one address in the "Address List" to continue allowing clients to connect and function even if one or several of the servers is/are not available.

TCP/IP + HTTP

You can also retrieve the information of available Citrix Servers and Published Applications across a firewall by using TCP/IP + HTTP server location.

※ "TCP/IP + HTTP" server location does not support the "Auto-Locate" function.

SSL/TLS + HTTPS

ISecure Sockets Layer (SSL) and Transport Layer Security (TLS) encryption provide server authentication, encryption of data stream and message integrity checks.

※ If you attempt to make a non-SSL/TLS connection to a SSL/TLS server, you will not be connected and a "connection failed" message will be displayed.
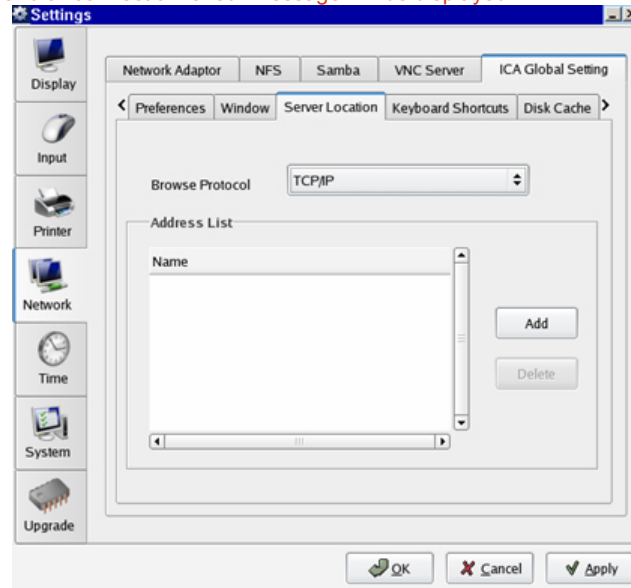
Keyboard Shortcuts

Use the "Keyboard Shortcuts" page to define alternative key combinations for the common hotkeys used within ICA sessions. For example in MS Windows, the key combination + closes the current window. It also works within ICA sessions.
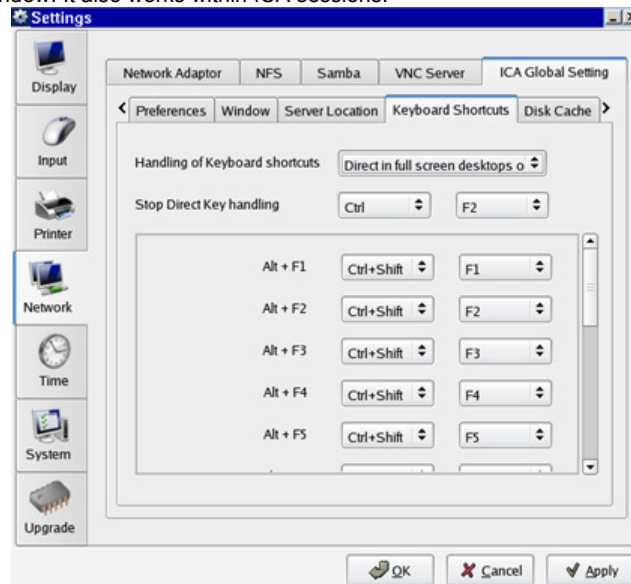
>If you choose to disable the "Alternate switching sequence", many of these hotkey combinations will be occupied by the X Server (esp. <Alt>+<Fx>). Therefore you will have to use the alternate sequences or map the affected combinations to different ones here to keep them available. Any <Alt> key combination not used by your X Window manager may still be used as usual within the ICA session.

By default, the key alternatives are mapped to <Ctrl><Shift>+Function key, but you can change the definitions by clicking on the drop-down box "Modifier on Client" and/or "Key on Client" of the particular combination.

※ If you want to use the PC key combination <Ctrl><Alt><Delete> during the ICA session, use the key combination <Ctrl><Alt><Enter> or <Ctrl><Alt><Return>.

Disk Cache

Here you can manipulate the settings for the Bitmap Cache. This may considerably improve the performance of your ICA session(s) if you are working with pictures that are displayed over

and over again.

Set the maximum size of local system memory (in kilobytes) to be used for caching and the minimum size of bitmaps to be cached and the directory the files should be stored locally.

※ A too high setting might leave the Thin Client with too low memory for its system and other applications! In doubt, you have the possibility of adding RAM to your Thin Client.
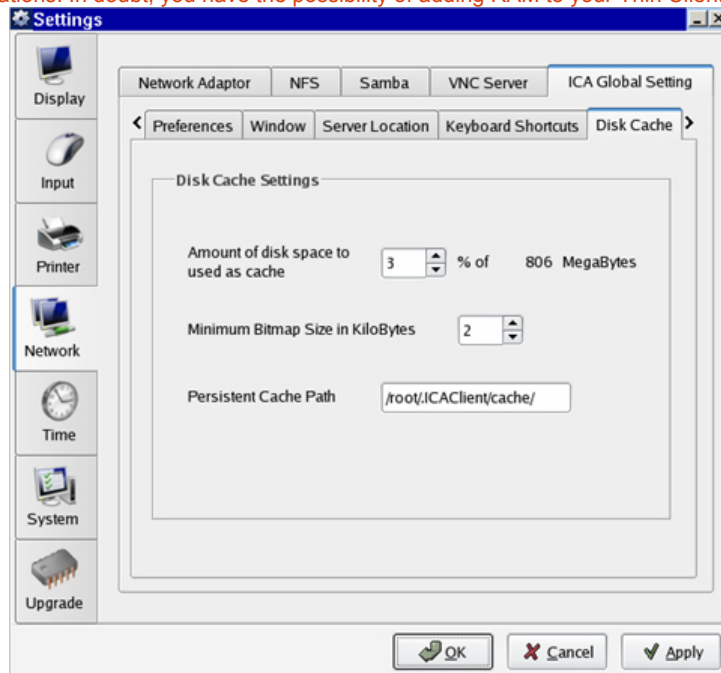
▶ Drive Mapping

"Drive Mapping" makes any directory mounted on your Thin Client available to you during ICA sessions on Citrix servers. Use this page to specify which folders or drives to map at logon. This applies for all ICA connection sessions.
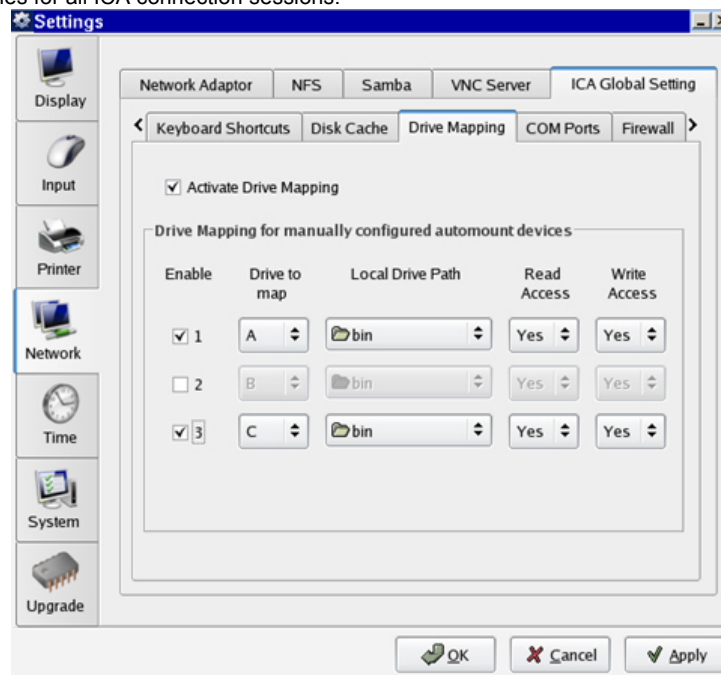
Activate Drive Mapping

This option allows you to temporarily enable/disable the drive mapping. This gives you the advantage of not losing your stored settings, but being able to switch them on/off.

How to configure a "*Drive Mapping*":

Enable one of the three mappings to activate the corresponding entry fields. Then click on the corresponding button in the "*Drive to map*" column. Now select the drive letter under which the local device or folder should be mapped. In case the drive letter you selected is not available on the Citrix server anymore, the specified directory or local drive will be mapped to the next free drive letter at logon.

In the "*Local Drive Path" field*, set the path name of the local directory the mapping should point to. When mapping a locally attached device, use the pre-defined path names as offered by the drop-down box. These are the directories the devices are mounted to by default at boot up.

Finally specify the access rights for the mapping. You can choose to grant "*Read Access*", "*Write access*" or to "*Ask User*" for each mapping separately.

※ The same drive mappings and access settings will apply to all ICA connections.

▶ COM Ports

You can perform bi-directional mapping between serial devices that are attached to the Thin Client (e.g. scanners, serial printers) and the Citrix Server's COM ports. This enables programs running on the server to exchange data with the local devices.
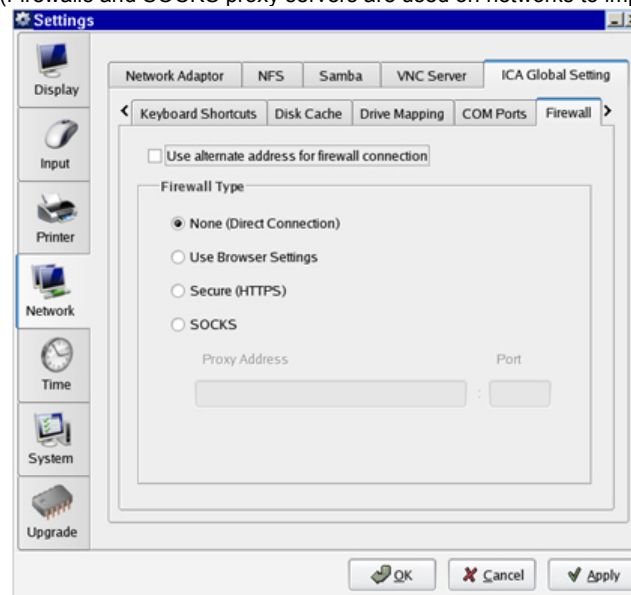
COM Port Devices
Select the COM port your device is attached to from this drop-down box: /dev/ttyS0 stands for the local COM1 and /dev/ttyS1 stands for the local COM2.
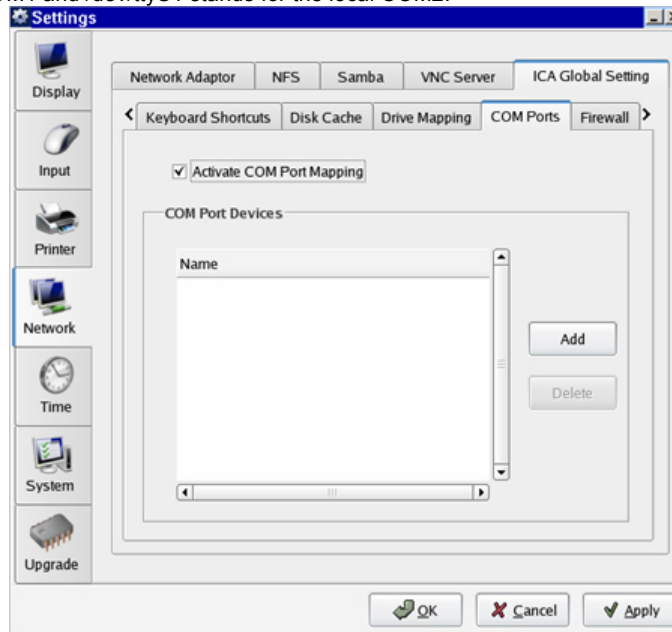
▶ **Firewall**
This "*Firewall*" page allows you to configure ICA connections through a firewall or a SOCKS proxy server. (Firewalls and SOCKS proxy servers are used on networks to improve security.)

Use Alternate Address
If you are using ICA sessions to connect to a specific Citrix server behind a firewall, you have to activate this option. The Citrix server (usually) has a different IP in the local network than from the outside world. (For details on server configuration, look up the "*altaddr*" command in your Metaframe admin manual.)
※ After enabling the alternate address, add the server in the "*Address List*" in the "*Server Location*" box of the "*Global ICA Settings*"
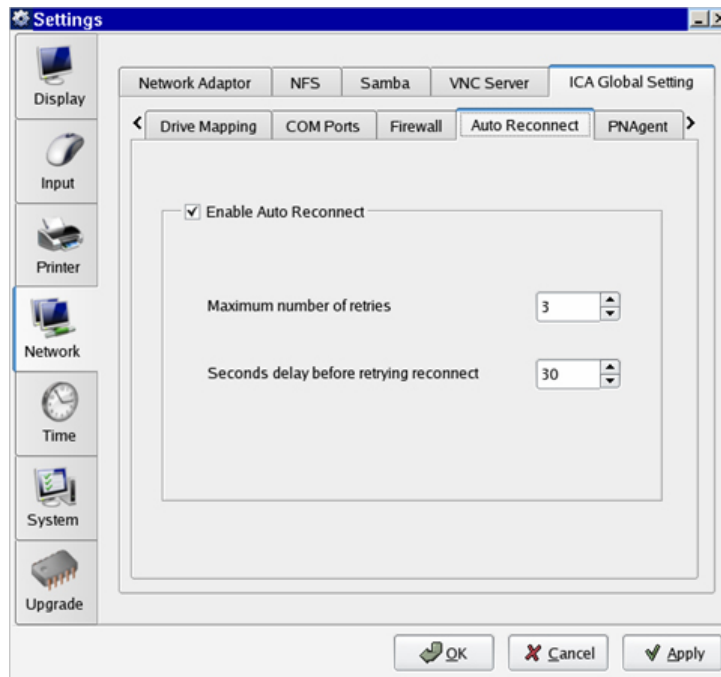*Connect via SOCKS or Secure Proxy Server*
You can configure the ICA sessions to connect to a Citrix server through a SOCKS proxy server or a Citrix Secure Gateway (in relay mode).
※ To make the "*Secure Gateway*" field accessible, the "*Browser Protocol*" in the "*Server Location*" tab has to be set to "*SSL/TLS + HTTPS*"
▶ **Auto Reconnect**
The options are self explanatory

PNAgent
This "PNAgent" (Program Neighborhood Agent) page allows you to configure and search for published applications by Metaframe servers.
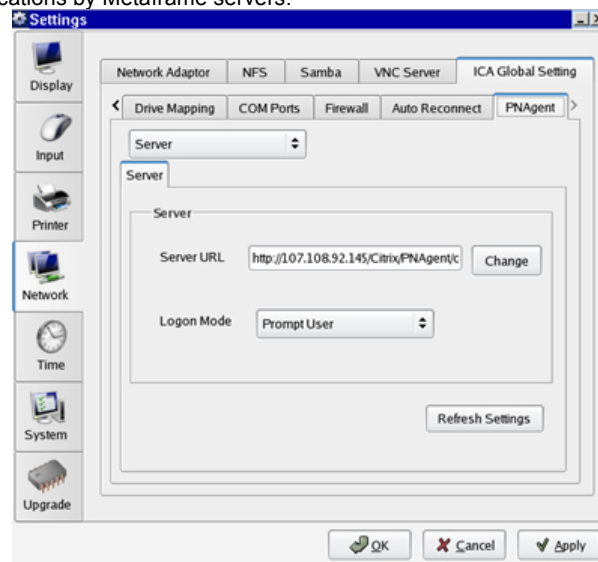
Server:
You need to provide the IP address of server with which you want to connect. The "*Refresh Settings*" or "*Change->Update*" settings will update the settings published by Metaframe server.

Logon Method:
Here you may want to specify how you want to connect to server. You can select either "*Prompt User*" or "*Anonymous Logon*".

Application Reconnection:

This page allows you to configure how you want to connect to your Metaframe servers.
However options are self explanatory.
　※ The page is enabled only when the you have selected your Logon Method as "Prompt
　　User" at Server page.

Session Options:

Most of the options in this page are self explanatory.

Handling of Keyboard Shortcuts

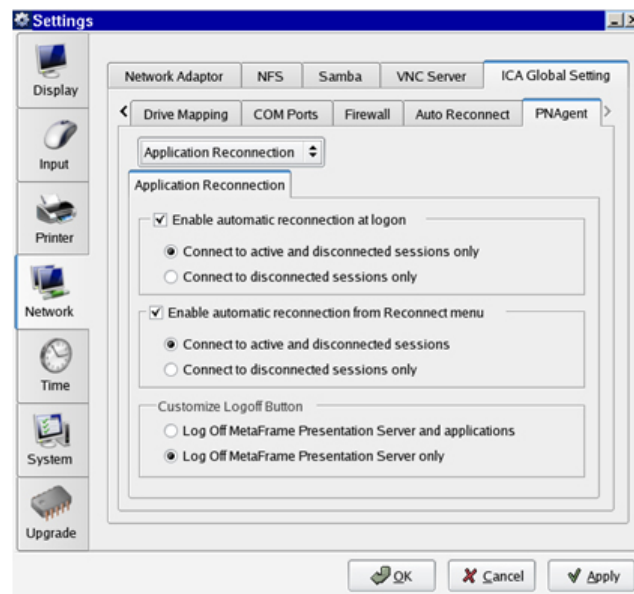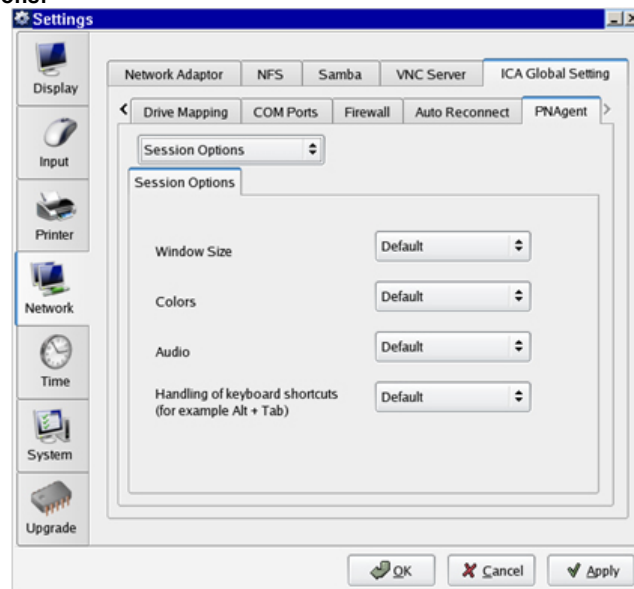**Translated** applies keyboard shortcuts to the local desktop rather than the remote desktop.
For example, pressing ALT+TAB switches between all the windows currently open on the local
desktop, including both local and remote windows.

Direct applies keyboard shortcuts to the remote desktop rather than the local desktop. For
example, pressing ALT+TAB switches between all the windows currently open on the remote
desktop, excluding any windows open on the local desktop.
　※ If you select Direct, keyboard shortcut translations are disabled to ensure that the
　　keystrokes are applied to the remote desktop.

Direct in full screen desktops only applies keyboard shortcuts to the remote desktop rather
than the local desktop when the remote session is running in full screen mode. If the session is
running in any other window size mode, keyboard shortcuts are applied to the local desktop
rather than the remote desktop.
　※ If you select "Direct in full screen desktops" only and the remote session is running in full
　　screen mode, keyboard shortcut translations are disabled to ensure that the keystrokes are
　　applied to the remote desktop.
　※ If you come across any issue with Samsung Connection Manager while configuring ICA
　　settings, you can also use *Citrix Connection Manager* by running wfcmgr on command
　　line.

▶ **Time**

This menu allows time settings for the STC to be configured. The available options to be set are
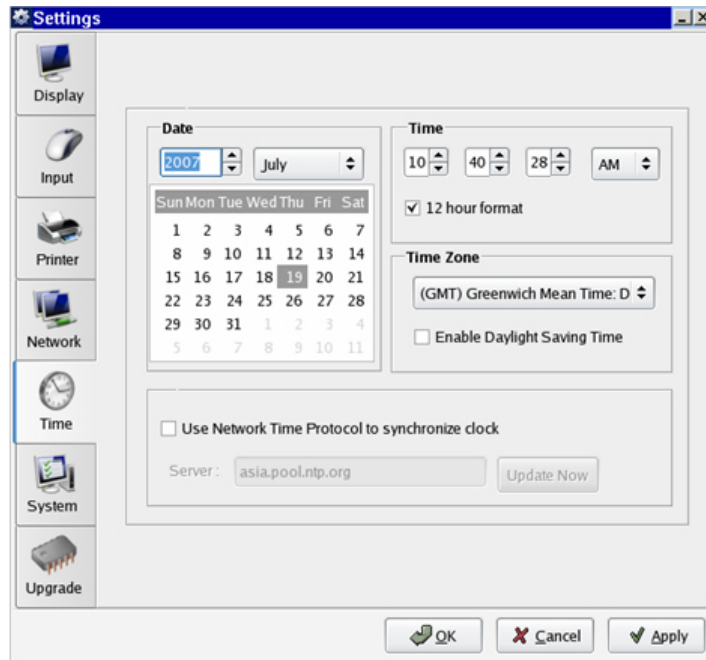
❶ **Date**
This menu section allows you to configure the date settings for the STC. The available options are

- **Year: -** Enter the year you want to set the date to.
- **Month: -** Enter the month you want to set the date to.
- **Date: -** Enter the day number of the month you want to set the date to.

❷ **Time**
This menu section allows you to configure the time settings for the STC. The available options are

- **Time to Set: -** Set the time by setting hours, minutes and seconds.
- **AM/PM Display: -** This is activated only if 12 hour display format is chosen.
- **Time Format to Be Used: -** Use 12 hour or 24 hour format for time display.

❸ **Time Zone**
This menu section allows you to configure the time zone settings for the STC. The available options are

- Time Zone Selection Menu
- Enabling/disabling Daylight Saving Time

❹ **Network Time Protocol (NTP)**
This menu section allows you to configure the settings for updating time from a server using NTP. The only available options is the server IP where the time server is located from which the time is to be updated using NTP.

▶ **System**

It contains the STC hardware and software configurations within the following fields:

- **Manufacturer: -** Displays the name of the Manufacturer.
- **Model Name: -** Displays the name of the STC Model. It can either be "Sync Master 711 LT" (for 17" panel device) or "Sync Master 911 LT" (for 19" panel device).
- **Software Version: -** Denotes the version of the Software currently in use by the STC.
- **Memory: -** Displays the information regarding the memory that is currently available to the STC.
- **Flash Size: -** This field gives information regarding the Flash Disk Memory size of the STC.
- **Terminal Name: -** Here you can set the name of the terminal for your STC.

Apart from these options, there also is a Factory Reset option available that is used to reverse any unnecessary changes being made by the user knowingly/unknowingly. It replaces the main settings and configuration files in the system with the default files that were present at the time of installing the OS.

◻ **Upgrade**

It is used to upgrade the STC OS. During the upgradation, the user preferences and other critical changes made by the user while operating the old OS are preserved and are made effective in the upgraded OS.
Firmware can be upgraded over following protocols

- HTTP
- FTP
- NFS

The different protocols used here provide different methods of accessing the firmware upgrade files present over the network. The upgrade function disables all other functions of the STC, so before starting the upgrade utility, the user is supposed to quit all other work that is under progress and save all the settings that is wished to be retained after the upgrade. For this, a warning message is popped up. On selecting OK in this dialog box, the upgrade process starts, else the upgrade process is cancelled.

❶ **Upgrade Using HTTP**
The firmware upgradation file is present in the location specified by the HTTP address. No username or password is required for this.


❷ **Upgrade Using FTP**
The firmware file is present in the location specified by the FTP address. A username and

password has to be provided.

❸ Upgrade Using NFS
The firmware file is present in the location specified by the NFS share address. No username or password is needed.
The upgrading process displays a warning message before starting the process. This warning message is used to remind the user that once the upgradation process starts, there is no way that the user can access the STC or the files present on it.
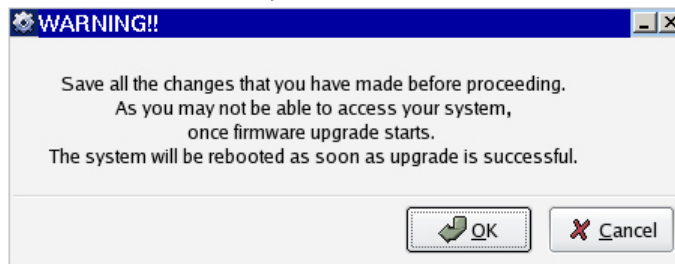
▶ Application Programs

▣ Connection Manager

Introduction
Connection Manager is the combined front end for Rdesktop, VNC Client, XDMCP and ICA. It can be configured to access a remote desktop using RDPv5 protocol, Connect to a Linux server over XDMCP, Citrix ICA server for Application publishing and connection as well as to connect to a VNC Server using VNC Client application. It has options to save the settings to a file as well as load saved settings from a file. Using connection Manager you can create desktop shortcuts and launch connections by simply clicking on that shortcut as well.
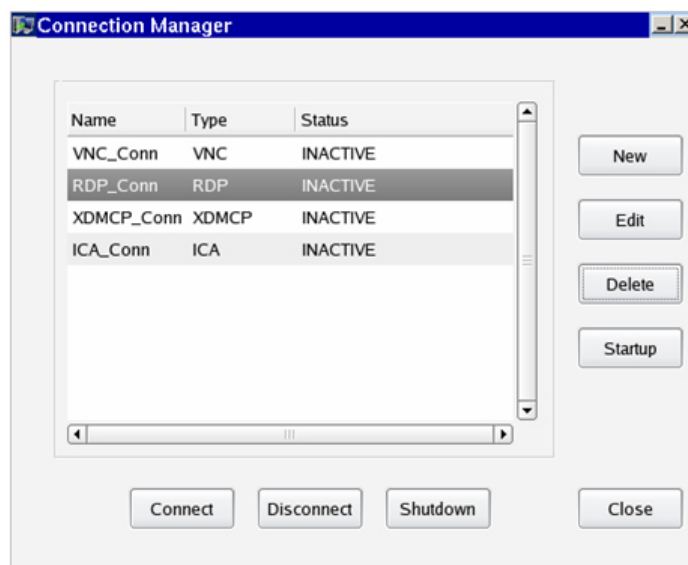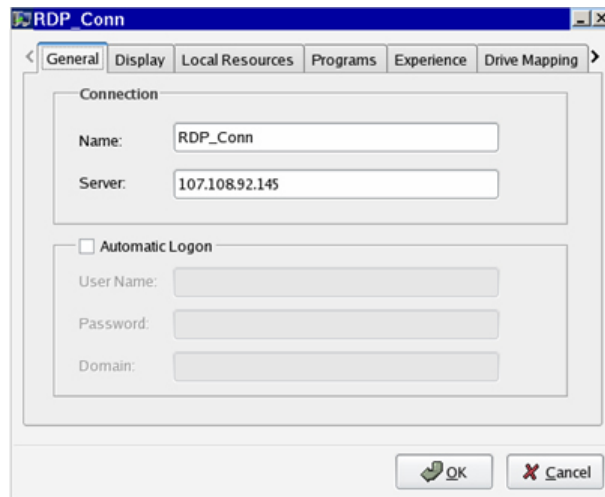

❶ RDP
You can configure RDP settings for a particular session as given below:

▶ General
The General tab of the RDP Connection manager has the following connection information to be provided at the time of connection:

- **Name :** Provide Name by which you want the connection to be identified.
- **Server :** Provide IP address of the server whom you want to connect to.

- **Automatic Logon :** Select if you want to logon automatically.
  - **User Name**: User Name to be used for connection.
  - **Password**: Password to be used for connecting to the system.
  - **Domain**: Domain name in which the system is present on the network.

▶ **Display**

The Display tab of the Connection Manager has the following display properties to be set while connecting to the remote desktop / server

- **Remote Desktop Size: -** Size of the window when connection is established.
- **Color Depth: -** Color depth to be used while connecting to the server.

▶ **Local Resources**

This section has the following connection properties to be set

- **Remote Computer Sound: -** Determines whether the multimedia files, when played on the connected server/desktop, should start the audio playback on the local system, the remote system or should totally suppress any such playback.
- **Keyboard: -** Select Keyboard layout to emulate.
- **Reconnect: -** Auto reconnects if session is disconnected by some unusual reason.
- **Create desktop shortcut**

▶ **Programs**

Allows setting of a program to run when connection is established successfully. The default is desktop to be displayed on connection.

▶ **Experience**

This menu section allows performance settings to be selected for better performance on connection. In case of performance problems, disable some not necessarily needed graphical features.

- **No Encryption:** This option is only needed (and will only work) if you have a French version of NT TSE.
- **Do not send Motion Events:** This saves bandwidth, although some Windows applications may rely on receiving mouse motion.
- **NT4 Compatible:** Use RDP version 4. The default is RDP v5.
- **Speed Level:** It changes default bandwidth performance behavior for RDPv5. By default only theming is enabled, and all other options are disabled (corresponding to modem (56 Kbps)). Setting experience to broadband enables menu animations and full window dragging. Setting experience to LAN will also enable the desktop wallpaper. Setting experience to modem disables all (including themes).

▶ **Drive Mapping**

If you have mass storage devices attached, make them available to the user by mapping them here. Press the "Add" button, select the drive name, type and base directory (where device is mounted on local system) to be used finally press "OK" button to map it (see picture). The server requires Windows XP or newer. The share name is limited to 8 characters.

▶ **Device Mapping**

As well as locally attached mass storage devices, you may also map the local COM ports of the Thin Client into the RDP session.
Enable COM port mapping and add the wanted port. /dev/ttyS0 stands for COM1 and /dev/ttyS1 for COM2.

❷ **VNC**

You can configure VNC Client settings for a particular session as given below:

▶ **General**

The General tab of the VNC Settings has the following connection information to be provided at the time of connection:

- **Name**: Provide Name by which you want the connection to be identified.
- **Server**: Provide IP address of the server whom you want to connect to.
- **Automatic Logon**: Select if you want to logon automatically.
  - Password: - Password to be used for connecting to the system.

▶ **Display**

The Display tab of the VNC Connection Manager has the following display properties to be set while connecting to the remote desktop / server

- **Screen Size: -** Size of the window when connection is established.
- **Color Depth: -** Color depth to be used while connecting to the server.

▶ **Input**

"View Only" Specifies that no keyboard or mouse events should be sent to the server. It is a useful feature if you want to view a desktop without interfering.

▶ **Misc**

Shared: When you make a connection to a VNC server, all other existing connections are normally closed. This option request that they be left open, allowing you to share the desktop with someone already using it.

Render Cursor Locally: Render the mouse cursor locally if the server supports it (default is on). This can make the interactive performance feel much better over slow links.

❸ **XDMCP**

You can configure XDMCP Client settings for a particular session as given below:

▶ **General**

The General tab of the XDMCP Settings has the following connection information to be provided at the time of connection:

- **Name:** Provide Name by which you want the connection to be identified.
- **Server:** Provide IP address of the server whom you want to connect to.
- **Contact Style:** Default is "Query".
  - Query: - Contact named host for XDMCP.
  - Broadcast: - Broadcast for XDMCP. The first server replying to broadcast request will be connected.

▶ **Display**

The Display tab of the XDMCP Connection Manager has the following display properties to be set while connecting to the remote desktop / server

- **Screen Size: -** Size of the window when connection is established.
- **Color Depth: -** Color depth to be used while connecting to the server.

▶ **Local Resources**
- **Reconnect: -** Auto reconnects if session is disconnected by some unusual reason.
- **Create desktop shortcut**

❹ **Citrix ICA Client**

▶ **Introduction**

The Citrix ICA Client is the front end used in STC for establishing a connection to an ICA Server present on the network. Most of the settings have already been explained above "*ICA (Global ICA Settings)*" across several pages, so we keep a bit briefer here. Many of the settings adjusted in the "*ICA (Global ICA Settings)*" are the defaults for new sessions.

※ The very first source of further details regarding ICA and Metaframe should always be the corresponding documentation from Citrix. This manual only gives some general configuration hints.

▶ **Interface**

The Citrix ICA can be configured by using STC Connection Manager.

▶ **Establishing a New Connection**

In order to establish a new connection to the ICA Server, the following steps are to be followed:

- Select "New..." option in the main GUI.
- Select "Citrix ICA Client" and "ADD".
- Select the Protocol to be used and enter the "Server Location" in the form of IP.
- Choose if you want to connect to server for desktop or for published applications.
- Once this is done, click on the button labeled "..." besides the "Description" and "Server" text boxes. If the server is found, its description will be shown in a separate window. Click on the description provided to select the particular server as the default ICA Server.

▶ **Mozilla Firefox**

Mozilla Firefox is the first choice browser used in the Thin Client. Because of its superior performance and reliability, it is the primary browser used to connect to the Internet and browse various HTTP as well as FTP sites. It already has PDF viewer and media player integrated into it, thus making it a multi-functional application.
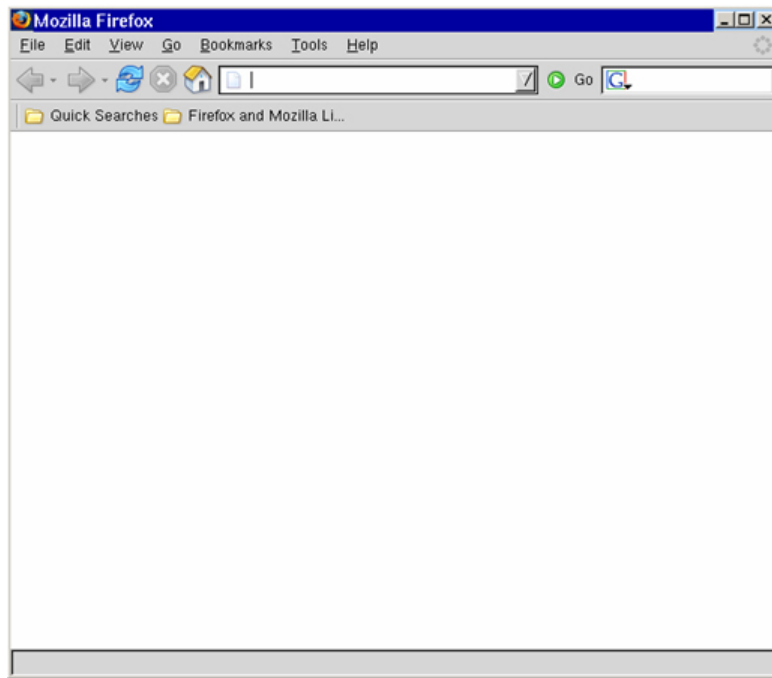
▶ Xterm

Xterm is the terminal used in STC wherein we can execute local commands using a shell. It is the basic busybox shell that is used in the Xterm as the command prompt. The X-term can be used to perform all the functionalities that we can do from the various application GUIs. The terminal can be invoked from the start menu, desktop icon, mouse right click or from shortcut provided on the taskbar.

We can also perform many functions with the Xterm using the local commands. One of them is to view the contents of a directory using the 'ls' command. Also we can use the commands like 'cp' and 'mv' for file management purpose. The Xterm is a shell similar to the Linux Terminal, but with far less number of applications. Here is a list of some of the common local commands that can be performed on the thin client:

List of Common Commands

Command	Description
ls	Lists the contents of a directory
cp	Copies file/directories from source to destination
mv	Moves file/directories from source to destination
df	Displays disk space usage by the filesystems mounted on the thin client
cal	Displays the calendar
cat	Displays the contents of a file
clear	Clears the terminal window screen
date	Displays the current time
dhclient	Get IP information using DHCP broadcast
du	Summarize disk space utilization for each file/directory
dmesg	Print or control kernel ring buffer
echo	Print a text or variable value on the terminal
firefox	Starts Mozilla Firefox web browser

fdisk	Used for getting or altering partition table information
free	Displays the amount of free and used system memory
halt	To halt/shutdown the system
ifconfig	To get IP information for the system
insmod	Insert a kernel module
kill	Kills a specified application
killall	Kills a specified process
lsmod	Lists the kernel modules already inserted
mkdir	Create an empty directory
modprobe	Check whether particular kernel module is inserted
mount	Mount a filesystem
ping	Send echo request to network hosts
poweroff	Switch off the power of the thin client
rdesktop	Connect to a remote desktop using rdesktop client
rm	Remove a file
rmdir	Remove a directory
rmmod	Remove a kernel module
reboot	Restarts the thin client
shutdown	Shutdown the system
top	Display process activity information in real time
udevd	Udev Daemon initialization command
umount	Remove mounted filesystems
uname	Print system information
vi	File editor (text mode only)
whoami	Displays current user information
pwd	Displays present working directory
x11vncserver	Starts the x11vncserver
xpdf	File reader for PDF files
xterm	Open another terminal window
busybox	Runs the multi-call single-executable busybox binary for the desired function to be invoked by the user

▶ File Browser – EmelFM2

The local file browser for the STC is EmelFM2. This file browser can be used to
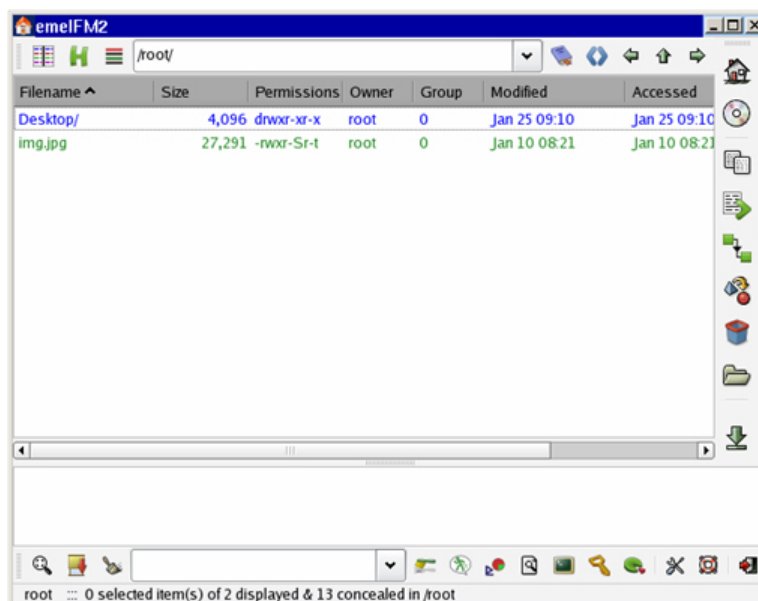
The file browser can be used to perform many operations like.

- Opening a file/directory in the same/different window
- Mounting/unmounting directories
- View files
- Renaming a file/directory
- Creating a new file/directory
- Viewing file information
- Compressing / uncompressing files into/from zipped/tar archives and so on.

| Introduction | Quick Overview of Supported Features | Boot Procedure | Control Center (Global Settings) | Application Programs | Shutdown |

▶ Shutdown

This option is used to shut down, suspend or reboot the STC. It can be either done from the

command prompt using the commands "shutdown" or "reboot", or using the shutdown interface as shown below. This interface is accessible using the start menu, mouse right click and from the power button of the thin client. The available options are as shown here
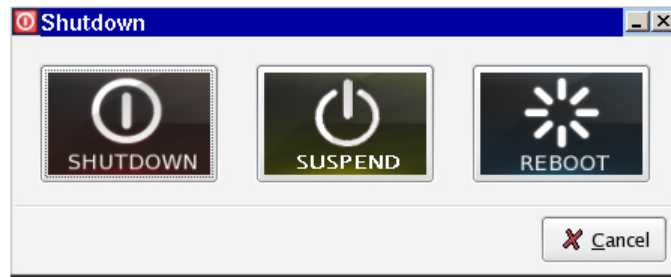
The **suspend button** will make the system to suspend state. Once the system is in suspend state you can get back to your previous session without much effort just by pressing power button on thin client panel.

The color and appearance of the product may vary depending on the model, and the product specifications are subject to change without prior notice for reasons of performance enhancement.

O   Using the Software

Monitor Driver   Natural Color   MagicTune™

▶ Monitor Driver

When prompted by the operating system for the monitor driver, insert the CD-ROM included with this monitor. Driver installation is slightly different from one operating system to another. Follow the directions appropriate for the operating system you have.

Prepare a blank disk and download the driver program file at the Internet web site shown below.

Internet web site : http://www.samsung.com/ (Worldwide)
http://www.samsung.com/monitor (U.S.A)
http://www.sec.co.kr/monitor (Korea)
http://www.samsungmonitor.com.cn/ (China)

▶ Installing the Monitor Driver (Automatic)

❶ Insert the CD into the CD-ROM drive.
❷ Click **"Windows"**.
❸ Choose your monitor model in the model list, then click the "OK" button.
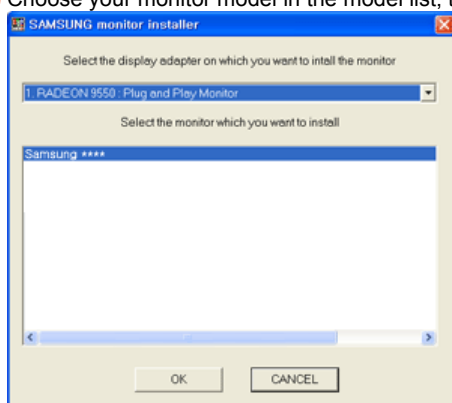
❹

If you can see following message window, then click the "Continue Anyway" button. Then click the "OK" button (Microsoft® Windows® XP/2000 Operating System).

Hardware Installation

The software you are installing for this hardware:

Samsung ****

has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)

Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.

[Continue Anyway] [STOP Installation]

※ This monitor driver is under certifying MS logo, and this installation doesn't damage your system.
The certified driver will be posted on Samsung Monitor homepage

http://www.samsung.com/

❺ Monitor driver installation is completed.

▣ **Installing the Monitor Driver (Manual)**
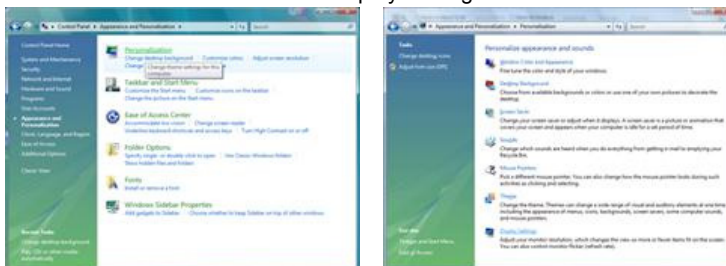
Windows Vista | Windows XP | Windows 2000 | Windows ME | Windows NT | Linux

▣ Microsoft® Windows Vista™ Operating System 🔺

❶ Insert your Manual CD into your CD-ROM drive.
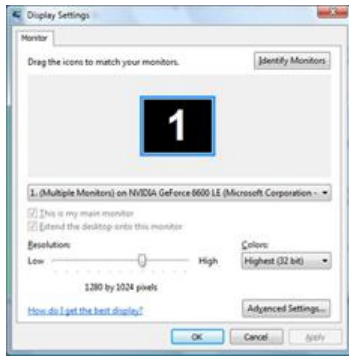❷ Click 🔵(Start) and "Control Panel". Then, double-click on "Appearance and Personalization".
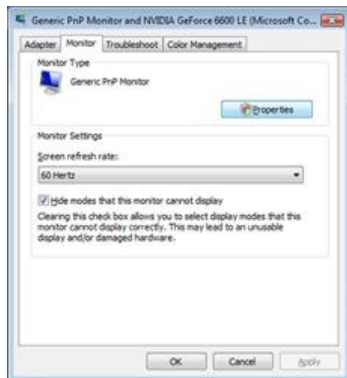

❸ Click "Personalization" and then "Display Settings".


❹

Click "Advanced Settings…".

⑤ Click "Properties" in the "Monitor" tab. If the "Properties" button is deactivated, it means the configuration for your monitor is completed. The monitor can be used as is.
If the message "Windows needs…" is displayed, as shown in the figure below, click "Continue".

※ This monitor driver is under certifying MS logo, and this installation doesn't damage your system.
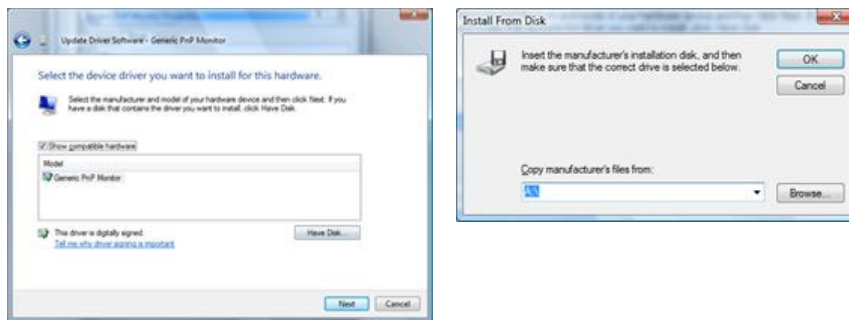The certified driver will be posted on Samsung Monitor homepage

http://www.samsung.com/

⑥ Click "Update Driver…" in the "Driver" tab.
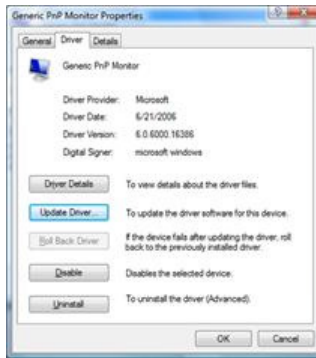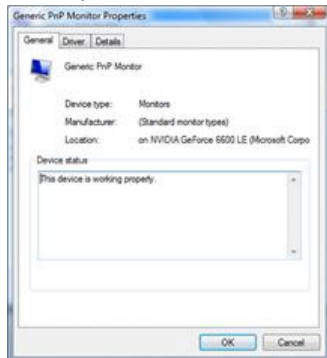
⑦ Check the "Browse my computer for driver software" checkbox and click "Let me pick from a list of device drivers on my computer".
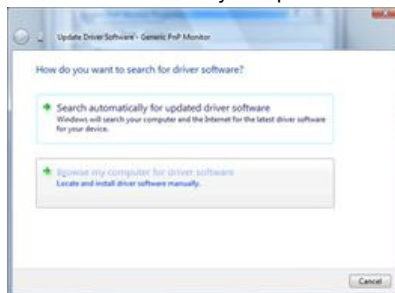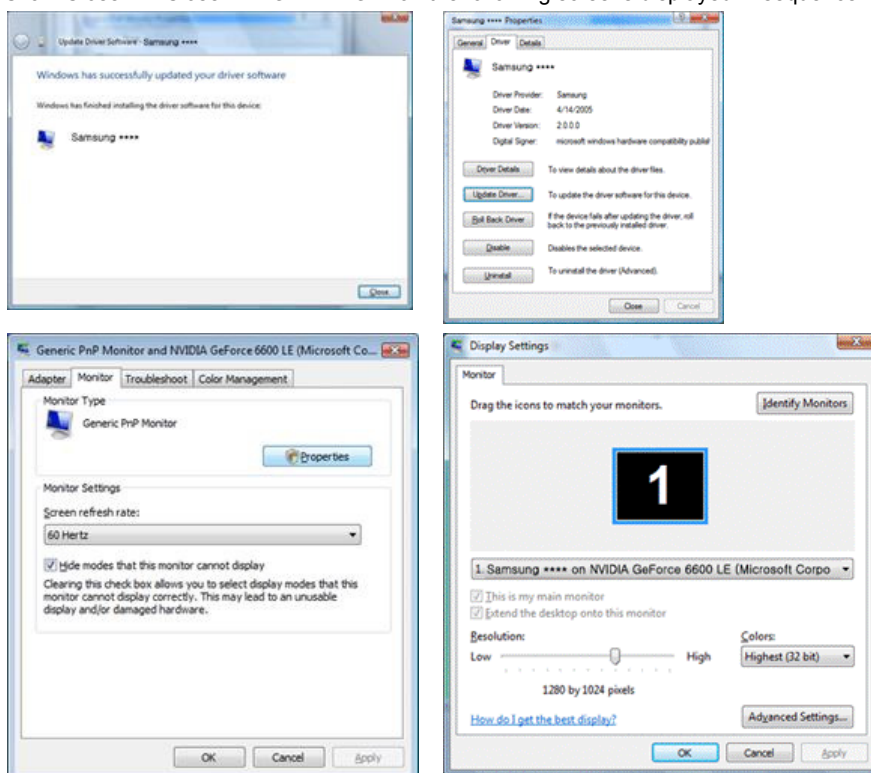

⑧ Click "Have Disk…" and select the folder (for example, D:\Drive) where the driver setup file is located, and click "OK".

⑨ Select the model that matches your monitor from the list of monitor models on the screen, and click "Next".
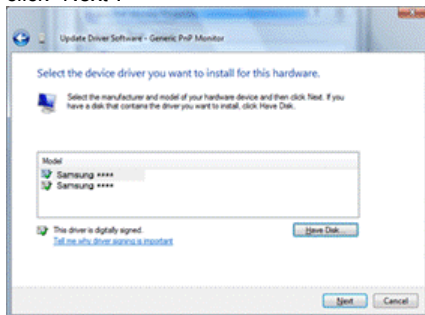
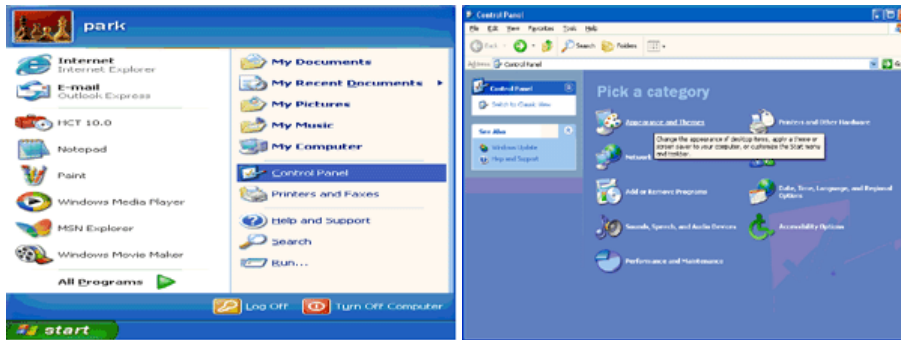⑩ Click "Close"→ "Close" → "OK" → "OK" on the following screens displayed in sequence.

▶ Microsoft® Windows® XP Operating System ▲

❶ Insert the CD into the CD-ROM drive.

❷

Click "Start" → "Control Panel" then click the "Appearance and Themes" icon.

❸ Click "Display" icon and choose the "Settings" tab then click "Advanced."
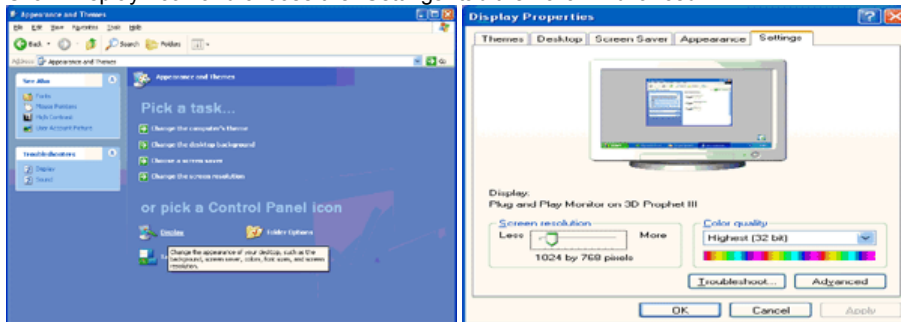
❹ Click the "Properties" button on the "Monitor" tab and select "Driver" tab.
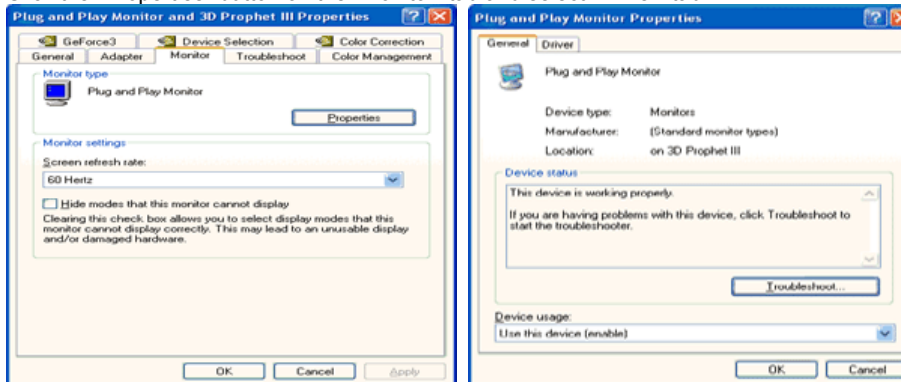
❺ Click "Update Driver." and select "Install from a list or." then click the "Next" button.
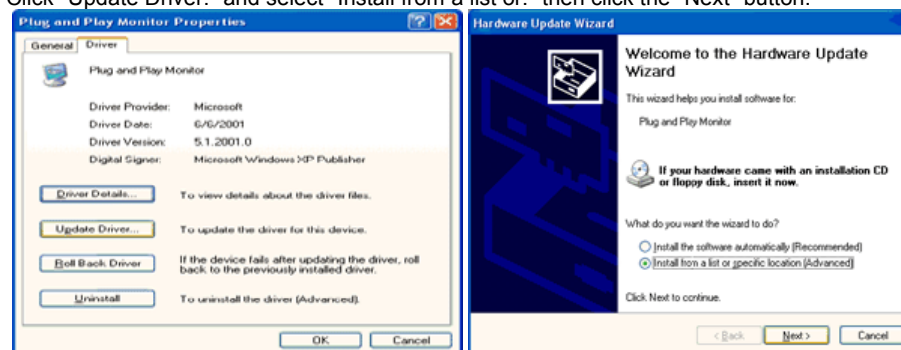
❻ Select "Don't search ,I will." then click "Next" and then click "Have disk".
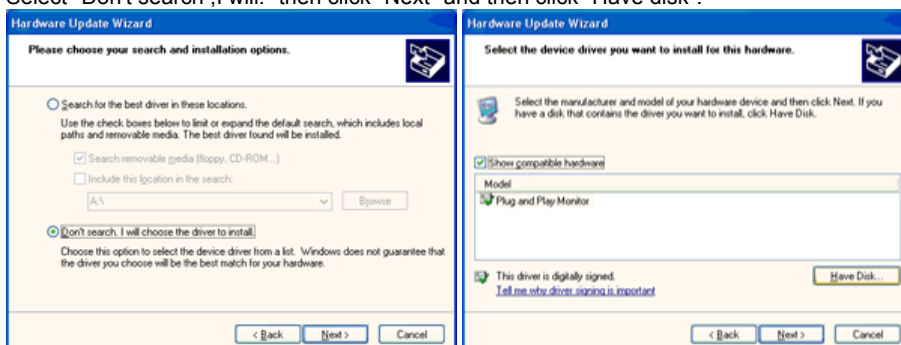
❼ Click the "Browse" button then choose A:(D:\Driver) and choose your monitor model in the model

list and click the "Next" button.
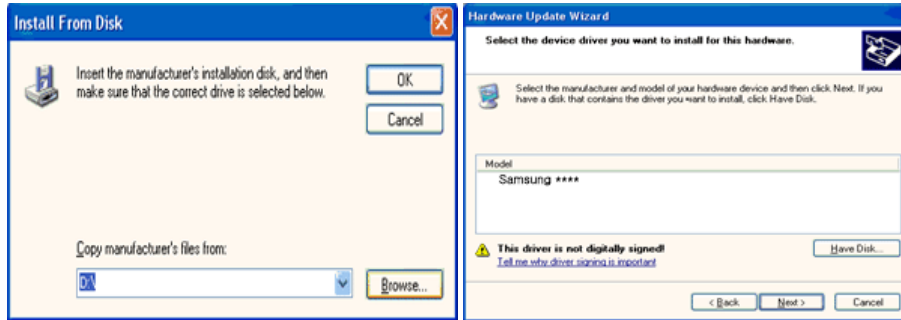
⑧ If you can see following "Message" window, then click the "Continue Anyway" button. Then click the "OK" button.

※ This monitor driver is under certifying MS logo, and this installation doesn't damage your system.
The certified driver will be posted on Samsung Monitor homepage

http://www.samsung.com/

⑨ Click the "Close" button then click the "OK" button continually.
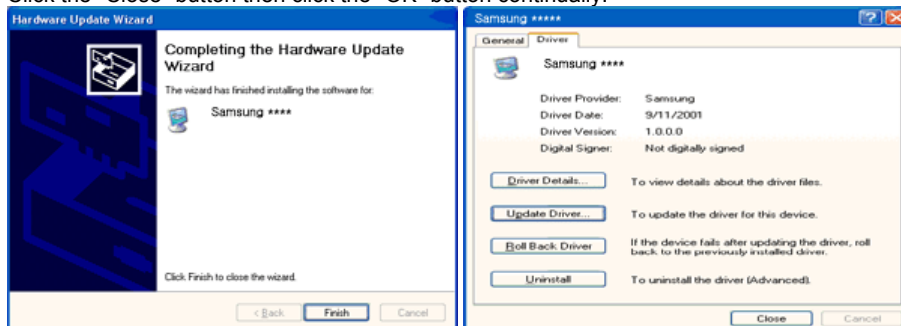
⑩ Monitor driver installation is completed.

Microsoft® Windows® 2000 Operating System ▲

When you can see "Digital Signature Not Found" on your monitor, follow these steps.
❶ Choose the "OK" button on the "Insert disk" window.
❷ Click the "Browse" button on the "File Needed" window.
❸ Choose A:(D:\Driver) then click the "Open" button and then click the "OK" button.

How to install

1. Click "Start," "Setting," and then "Control Panel."
2. Double click the "Display" icon.
3. Select the "Settings" tab and click the "Advanced Properties" button.
4. Choose "Monitor."

   Case1 : If the "Properties" button is inactive, it means your monitor is properly configured. Please stop installation

   Case2 : If the "Properties" button is active, click the "Properties" button then follow next steps continually.

5. Click "Driver" and then click "Update Driver." then click the "Next" button.
6. Choose "Display a list of the known drivers for this device so that I can choose a specific driver" then click "Next" and then click "Have disk".
7. Click the "Browse" button then choose A:(D:\Driver).
8. Click the "Open" button, then click the "OK" button.
9. Choose your monitor model and click the "Next" button then click "Next" button.
10. Click the "Finish" button then the "Close" button.

   If you can see the "Digital Signature Not Found" window then click the "Yes" button. And click the "Finish" button then the "Close" button.

▶ Microsoft® Windows® Millennium Operating System ▲

1. Click "Start," "Setting," and then "Control Panel."
2. Double click the "Display" icon.
3. Select the "Settings" tab and click the "Advanced Properties" button.
4. Select the "Monitor" tab.
5. Click the "Change" button in the "Monitor Type" area.
6. Choose "Specify the location of the driver."
7. Choose "Display a list of all the driver in a specific location." then click the "Next" button.
8. Click the "Have Disk" button.
9. Specify A:\(D:\driver) then click the "OK" button.
10. Select "Show all devices" and choose the monitor that corresponds to the one you connected to your computer and click "OK".
11. Continue choosing "Close" button and "OK" button until you close the Display Properties dialogue box.

▶ Microsoft® Windows® NT Operating System ▲

1. Click "Start," "Settings," "Control Panel," and then double-click "Display" icon.
2. In the Display Registration Information window, click the Settings tab and then click "All Display Modes".
3. Select a mode that you wish to use (Resolution, Number of colors and Vertical frequency) and then click "OK".
4. Click the "Apply" button if you see the screen working normally after clicking "Test". If the screen is not normal, change to a different mode (lower mode of resolution, colors, or frequency).

   ※ If there is no Mode at All Display Modes, select the level of resolution and vertical frequency by referring to the Preset Timing Modes in the user guide.

▶ Linux Operating System ▲

To execute X-Window, you need to make the X86Config file, which is a type of system setting file.

1. Press "Enter" at the first and the second screen after executing the X86Config file.
2. The third screen is for setting your mouse.
3. Set a mouse for your computer.
4. The next screen is for selecting a keyboard.
5. Set a Keyboard for your computer.
6. The next screen is for setting your monitor.
7. First of all, set a horizontal frequency for your monitor. (You can enter the frequency directly.)
8. Set a vertical frequency for your monitor. (You can enter the frequency directly.)
9. "Enter" the model name of your monitor. This information will not affect the actual execution of X-Window.
10. You have finished setting up your monitor.
    Execute X-Window after setting other requested hardware.

▶ Natural Color

◼ Natural Color

One of the recent problems in using a computer is that the color of the images printed out by a printer or other images scanned by a scanner or a digital camera are not the same as those shown on the monitor.
the Natural Color S/W is the very solution for this problem. It is a color administration system developed by Samsung Electronics in association with Korea Electronics & Telecommunications Research Institute (ETRI).
This is only available for Samsung monitors and ensures that the color of the images on the monitor are the same as the printed or scanned images.
For more information, refer to Help (F1) in the software program.

◼ Installing the Natural Color Software

Insert the CD included with the Samsung monitor into the CD-ROM Drive. The initial Natural Color screen will appear. Click on Natural Color in the startup window to install the Natural Color software. To install the program manually, insert the CD included with the Samsung monitor into the CD-ROM Drive, click the Windows **[Start]** button, select **[Run...]** .
Enter D:\Color\NCProSetup.exe and then press the <Enter> key.
(If the drive where the CD is inserted is not D:\, enter the applicable drive.)

◼ Uninstalling the Natural Color Software Program

Select **"Settings" / "Control Panel"** from the **"Start"** menu and then double-click **"Add/Delete a program"**
Select Natural Color from the list and then click the "Add/Delete" button.

▶ MagicTune™

▦ Installation

1. Insert the installation CD into the CD-ROM drive.
2. Click the MagicTune™ installation file.
3. Select installation Language, Click "Next".
4. When the Installation Shield Wizard window appears, click "Next."
5. Select "I agree to the terms of the license agreement" to accept the terms of use.
6. Choose a folder to install the MagicTune™ program.
7. Click "Install."
8. The "Installation Status" window appears.
9. Click "Finish."
10. When the installation is complete, the MagicTune™ executable icon appears on your desktop.

    Double-click the icon to start the program.

MagicTune™ execution icon may not appear depending on specification of computer system or monitor.
If that happens, press F5 Key.

Installation Problems (MagicTune™)

The installation of MagicTune™ can be affected by such factors as the video card, motherboard and the network environment.

System Requirements
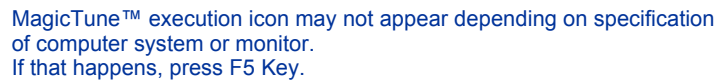
OS

- Windows 2000
- Windows XP Home Edition
- Windows XP Professional
- Windows Vista™

It is recommended using MagicTune™ in Windows® 2000 or later.

Hardware

- 32MB Memory above
- 60MB Hard disk space above

* For more information, visit the MagicTune™ website.

Uninstall

The MagicTune™ program can be removed only by using the "Add or Remove Programs" option of the Windows® Control Panel.

Perform the following steps remove MagicTune™.

1. Go to [Task Tray] ' [Start] ' [Settings] and select [Control Panel] in the menu. If the program runs on Windows® XP, go to [Control Panel] in the [Start] menu.

2. Click the "Add or Remove Programs" icon in Control Panel.

3. In the "Add or Remove Programs" screen, scroll down to find "MagicTune™". Click on it to highlight it.

4. Click the "Change/Remove" button to remove the program.

5. Click "Yes" to begin the uninstall process.

6. Wait until the "Uninstall Complete" dialog box appears.

Visit the MagicTune™ website for technical support for MagicTune™, FAQs (questions and answers) and software upgrades.

![SAMSUNG]

The color and appearance of the product may vary depending on the model, and the product specifications are subject to change without prior notice for reasons of performance enhancement.

○ Adjusting the Monitor

Control Buttons   Direct Functions   OSD Function

▶ Control Buttons

MENU / ▯▯▯   ◢◣/▼   ▲/▭   ▭/ SOURCE   AUTO   ⏻

① ② ③ ④

① [MENU / ▯▯▯] Opens the OSD menu. Also use to exit the OSD menu or return to the previous menu.

② [▼/▲] These buttons allow you to adjust items in the menu.

③ [▣] Press this button to Activates a highlighted menu item.

④ [AUTO] When the 'AUTO' button is pressed, the Auto Adjustment screen appears as shown in the animated screen on the center.

Control Buttons   Direct Functions   OSD Function

▶ Direct Functions

▣ **AUTO**

Menu	Description
	When the 'AUTO' button is pressed, the Auto Adjustment screen appears as shown in the animated screen on the center. The values of fine, coarse and position are adjusted automatically.
AUTO	※ Available in analog Mode Only ▶ If auto adjustment does not work properly, press 'AUTO' button again to adjust picture with more accuracy. ▶ If you change resolution in the control panel, auto function will be executed automatically.

◘ **OSD Lock & Unlock**

◘ In case of pushing AUTO button after locking OSD

▶ In case of pushing MENU button after locking OSD

Menu	Description
OSD Lock & Unlock	This is the function that locks the OSD in order to keep the current states of settings or prevent others from adjusting the current settings. **Lock** : Hold down the menu button for more than five (5) seconds to activate the OSD adjustment lock function. **Unlock** : Hold down the menu button for more than five (5) seconds to deactivate the OSD adjustment lock function. ※ Though the OSD adjustment lock function is activated, you can still adjust the brightness and contrast, and adjust MagicBright ( ) using the Direct button.

▶ **MagicBright™**

Menu	Description

		Push the MagicBright™ button to circle through available preconfigured modes.
	MagicBright™	- Six different modes (Custom/Text/Internet/Game/Sport/Movie)

▶ Volume

Menu		Description
	Volume	When OSD is not on the screen, push [▲/◐] the button to adjust volume.

▶ SOURCE

Menu		Description
	SOURCE	Selects the Video signal while the OSD is off. (Analog/Client)

▶ OSD Function

Picture	Brightness	Contrast			
Color	MagicColor	Color Tone	Color Control	Gamma	
Image	Coarse	Fine	Sharpness	H-Position	V-Position
OSD	Language	H-Position	V-Position	Transparency	Display Time
Setup	Image Reset	Color Reset			
Information					

▶ Picture ▲

Menu	Description	Play/Stop
Brightness	You can use the on-screen menus to change the brightness according to personal preference. MENU → ↵ → ↵ → ▲, ▼ → MENU	
Contrast	You can use the on-screen menus to change the contrast according to personal preference. (Not available in MagicColor mode of Full and Intelligent.) MENU → ↵ → ▲, ▼ → ↵ → ▲, ▼ → MENU	

▶ Color ▲

Menu	Description	Play/Stop

MagicColor is a new technology that Samsung has exclusively developed to improve digital image and to display natural color more clearly without disturbing image quality.

❶ Off — Returns to the original mode.

❷ Demo — The screen before applying MagicColor appears on the right and the screen after applying MagicColor appears on the left.

❸ Full — Displays not only vivid natural color but also more realistic natural skin color with clearness.

❹ Intelligent — Displays vivid natural color with clearness.

❺ MagicZone — The MagicZone ensures the clear and sharp display of animated multimedia or photo images by enhancing the brightness, sharpness, saturation, hue of a certain area on the screen. Especially, MagicZone is appropriate to using the moving picture.

MagicColor

▶ Hue — This function is to adjust the hue of the MagicZone.

▶ Saturation — This function is to adjust the saturation of the MagicZone.

▶ Brightness — This function is to adjust the brightness of the MagicZone.

▶ Sharpness — This function is to adjust the sharpness of the MagicZone.

▶ H-Position — This function is to move the MagicZone horizontally.

▶ V-Position — This function is to move the MagicZone vertically.

▶ H-Size — This function is to adjust the horizontal size of the MagicZone.

▶ V-Size — This function is to adjust the vertical size of the MagicZone.

The tone of the color can be changed and one of four modes can be selected -Cool, Normal, Warm and Custom.

Color Tone	(Not available in MagicColor mode of Full and Intelligent.) MENU → ▲, ▼ → ↵ → ▲, ▼ → ↵ → ▲, ▼ → MENU		

Color Control

Adjusts individual Red, Green, Blue color balance. - Red, Green, Blue
(Not available in MagicColor mode of Full and Intelligent.)

MENU → ▲, ▼ → ↵ → ▲, ▼ → ↵ → ▲, ▼ → ↵ → ▲, ▼ → MENU

Gamma

Gamma correction changes the luminance of the colors with intermediate luminance.

- Mode 1
- Mode 2
- Mode 3

MENU → ▲, ▼ → ↵ → ▲, ▼ → ↵ → ▲, ▼ → MENU

◪ ⊞ Image ▲

Menu	Description	Play/Stop
Coarse	Removes noise such as vertical stripes. Coarse adjustment may move the screen image area. You may relocate it to the center using the horizontal control menu. ※ Available in analog Mode Only MENU → ▲, ▼ → ↵ → ↵ → ▲, ▼ → MENU	
Fine	Removes noise such as horizontal stripes. If the noise persists even after fine tuning, repeat it after adjusting the frequency (clock speed). ※ Available in analog Mode Only MENU → ▲, ▼ → ↵ → ▲, ▼ → ↵ → ▲, ▼ → MENU	
Sharpness	Changes the clearance of image. (Not available in MagicColor mode of Full and Intelligent.) MENU → ▲, ▼ → ↵ → ▲, ▼ → ↵ → ▲, ▼ → MENU	

H-Position	Changes the horizontal position of the monitor's entire display. ※ Available in analog Mode Only MENU → ▲ , ▼ → ↵ → ▲ , ▼ → ↵ → ▲ , ▼ → MENU	
V-Position	Changes the vertical position of the monitor's entire display. ※ Available in analog Mode Only MENU → ▲ , ▼ → ↵ → ▲ , ▼ → ↵ → ▲ , ▼ → MENU	

▶ 🖥 OSD 🔼

Menu	Description	Play/Stop
Language	You can choose one of the nine languages. • English, Deutsch, Español, Français, Italiano, Svenska, Русский , Português , Türkçe ※ The language chosen affects only the language of the OSD. It has no effect on any software running on the computer. MENU → ▲ , ▼ → ↵ → ↵ → ▲ , ▼ → MENU	
H-Position	You can change the horizontal position where the OSD menu appears on your monitor. MENU → ▲ , ▼ → ↵ → ▲ , ▼ → ↵ → ▲ , ▼ → MENU	
V-Position	You can change the vertical position where the OSD menu appears on your monitor. MENU → ▲ , ▼ → ↵ → ▲ , ▼ → ↵ → ▲ , ▼ → MENU	
Transparency	Change the transparency of the background of the OSD. MENU → ▲ , ▼ → ↵ → ▲ , ▼ → ↵ → ▲ , ▼ → MENU	
	The menu will be automatically turned off if no adjustments are made for a certain time period. You can set the amount of time the menu will wait before it is	

| Display Time | turned off.
- 5 Sec, 10 Sec, 20 Sec, 200 Sec

MENU → ▲ , ▼ → ↵ → ▲ , ▼ → ↵ → ▲ , ▼ → MENU | |

▶ ⊞ Setup ▲

Menu	Description	Play/Stop
Image Reset	Image parameters are replaced with the factory default values. MENU → ▲ , ▼ → ↵ → ↵ → ▲ , ▼ → MENU	
Color Reset	Color parameters are replaced with the factory default values. MENU → ▲ , ▼ → ↵ → ▲ , ▼ → ↵ → ▲ , ▼ → MENU	

▶ ⏻ Information ▲

Menu	Description
Information	Shows a video source, display mode on the OSD screen. MENU → ▲ , ▼

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- Safety Precautions
- Introduction
- Connections
- Using Linux
- Using the Software
- Adjusting the Monitor
- Troubleshooting
- Specifications
- Information

O Troubleshooting

Check List   Q & A   Self-Test

Check List

Before calling for service, check the information in this section to see if you can remedy any problems yourself. If you do need assistance, please call the phone number on the Information section or contact your dealer.

Symptom	Check List	Solutions
No images on the screen. I cannot turn on the monitor.	Is the power cord connected properly?	Check the power cord connection and supply.
	Can you see "Check Signal Cable" on the screen?	Check the signal cable connection.
	If the power is on, reboot the computer to see the initial screen(the login screen), which can be seen.	If the initial screen (the login screen) appears, boot the computer in the applicable mode (the safe mode for Windows ME/XP/2000) and then change the frequency of the video card. (Refer to the Preset Timing Modes) If the initial screen (the login screen) does not appear, contact the Service Center or your dealer.
	Can you see "Not Optimum Mode", "Recommended Mode 1280 x 1024 60 Hz" on the screen?	You can see this message when the signal from the video card exceeds the maximum resolution and frequency that the monitor can handle properly. Adjust the maximum resolution and frequency that the monitor can handle properly. If the display exceeds SXGA or 75 Hz, a "Not Optimum Mode", "Recommended Mode 1280 x 1024 60 Hz" message is displayed. If the display exceeds 85 Hz, the display will work properly but the "Not Optimum Mode", "Recommended Mode 1280 x 1024 60 Hz" message appears for one minute and then disappears. Please change to the recommended mode during this one-minute period. (The message is displayed again if the system is rebooted.)
	There is no image on the screen. Is the power indicator on the monitor blinking at 1 second intervals?	The monitor is in PowerSaver mode. Press a key on the keyboard to activate the monitor and restore the image on the screen. If there is still no image, press the 'SOURCE' button. Then press any key on the keyboard again to activate

the monitor and restore the image on the screen.

I cannot see the On Screen Display.	Have you locked the On Screen Display (OSD) Menu to prevent changes?	Unlock the OSD by pressing the [MENU / ⬚⬚] button for at least 5 seconds.
The screen shows strange colors or just black and white.	Is the screen displaying only one color as if looking at the screen through a cellophane paper?	Check the signal cable connection. Make sure the video card is fully inserted in it's slot.
	Have the screen colors become strange after running a program or due to a crash between applications?	Reboot the computer.
	Has the video card been set properly?	Set the video card by referring to the video card manual.
The screen suddenly has become unbalanced.	Have you changed the video card or the driver?	Adjust screen image position and size using the OSD.
	Have you adjusted the resolution or frequency to the monitor?	Adjust the resolution and frequency at the video card. (Refer to the Preset Timing Modes).
	The screen can be unbalanced due to the cycle of the video card signals. Readjust Position by referring to the OSD.	
The screen is out of focus or OSD cannot be adjusted.	Have you adjusted the resolution or frequency on the monitor?	Adjust the resolution and frequency of the video card. (Refer to the Preset Timing Modes).
LED is blinking but no images on the screen.	Is the frequency properly adjusted when checking the Display Timing on the menu?	Adjust the frequency properly by referring to the video card manual and the Preset Timing Modes. (The maximum frequency per resolution may differ from product to product.)
There are only 16 colors shown on the screen. The screen colors have changed after changing the video card.	Have the Windows colors been set properly?	Windows XP : Set the resolution at the Control Panel → Appearance and Themes → Display → Settings. Windows ME/2000 : Set the resolution at the Control Panel → Display → Settings.
	Has the video card been set properly?	Set the video card by referring to the video card manual.
There is a message that reads "Unrecognized monitor, Plug & Play (VESA DDC) monitor found".	Have you installed the monitor driver?	Install the monitor driver according to the Driver Installation Instructions.
	See the video card manual to see if the Plug & Play (VESA DDC) function can be supported.	Install the monitor driver according to the Driver Installation Instructions.
Problems related to Audio	No sound	Ensure that the audio cable is firmly connected to both the audio-in port on your monitor and the audio-out port on your sound card. (Refer to Connecting the Monitor) Check the volume level.

	Sound level is too low.	Check the volume level.
		If the volume is still too low after turning the control to its maximum, check the volume control on the computer sound card or software program.
Check when MagicTune™ does not function properly.	MagicTune™ feature is found only on PC (VGA) with Window OS that supports Plug and Play.	* To check whether your PC is available for MagicTune™ feature, follow the steps below (When Windows™ is XP); Control Panel → Performance and Maintenance → System → Hardware → Device Manager → Monitors → After deleting Plug and Play monitor, find 'Plug and Play monitor' by searching new Hardware. MagicTune™ is an additional software for the monitor. Some graphic cards may not support your monitor. When you have a problem with the graphic card, visit our website to check the compatible graphic card list provided. http://www.samsung.com/monitor/magictune
MagicTune™ doesn't work properly.	Have you changed your PC or video graphic card?	Download the latest program. The program can be downloaded http://www.samsung.com/monitor/magictune
	Did you install the program?	Reboot the computer after installing the program for the first time. If a copy of the program is already installed, remove it, reboot the computer, and then install the program again. You need to reboot the computer for it to operate normally after installing or removing the program.

※ Visit the MagicTune™ website and download the installation software for MagicTune™ MAC.

◪ **Check the following items if there is trouble with the monitor.**

Symptom	Solutions
The screen does not appear when I switch to the Client Mode.	When booting up, it takes about 30 seconds for the networking functions to be activated and no screen is displayed for about 3 to 4 seconds. Wait 30 seconds after the power is turned on, and try to switch modes again. If the operating system does not boot up due to damage to Windows or a blue screen is displayed, download the Windows XPe OS from this site and recover your operating system with it : http://www.syncsight.com
The client screen appears, but I cannot connect to the server.	1) Check if the Hub port LED to which the LAN cable is connected blinks. If not, that indicates that the LAN connection is disconnected. In this case, connect using another LAN cable. 2) Check if the settings of the 'Settings', 'Network' tab are properly set up. The default setting is "DHCP". If your network uses a static IP address, select 'Use the following IP address' and then enter the appropriate IP address information. 3) Check if the 'User Name' and 'Password' set in the 'Remote Desktop' tab of 'Settings' are the same as those of the host PC. If not, match the 'User Name' and 'Password' of the 'Remote Desktop' with those of the host PC.
I cannot access the Internet in the Client screen.	1) Check if the Hub port LED to which the LAN cable is connected blinks. If not, that indicates that the LAN connection is disconnected. In this case, connect using another LAN cable. 2) Check if the settings of the 'Network' tab of 'Settings' have been properly set up. The default setting is "DHCP". If your network uses a static IP address, select 'Use the following IP address' and then enter the appropriate IP address information.
The contents (video, voice) on the server do not play smoothly on the Client Monitor.	This is because the data is transmitted over the LAN. Check your LAN connection status.
I have connected a	This model supports USB devices that support removable disk functions without

digital device such as a digital camera, camcorder or USB memory to the USB port, but they do not work.	an additional driver installation. Check if the device you want to connect to is a device that supports the removable disk function without an additional driver installation.
The file list does not appear.	1) Check the files on the card. If only abnormal files (e.g. 0KByte, broken JPEG) exist, the files do not appear on the screen. 2) The time required to display is determined by the size of the file. Wait a moment. 3) Check if the format of the file is supported by the Client Monitor. If the extension of the file has been changed, the file will not be played.

▶ **Check the following items if there is trouble with the monitor.**

- ▶ Check if the power cord and the video cables are properly connected to the computer.

- ▶ Check if the computer beeps more than 3 times when booting.
  (If it does, request an a service for the main board of the computer.)

- ▶ If you installed a new video card or if you assembled the PC, check if the installed the adaptor(video) driver and the monitor driver.

- ▶ Check if the scanning ratio of the video screen is set at 56 Hz ~ 75 Hz.
  (Do not exceed 75 Hz when using the maximum resolution.)

- ▶ If you have problems in installing the adaptor (video) driver, boot the computer in Safe Mode, remove the Display adaptor at the "Control Panel → System → Device Administrator" and then reboot the computer to reinstall the adaptor (video) driver.

※ If problems repeatedly occur, contact an authorized service center.

Check List   Q & A   Self-Test

▶ **Q & A**

Question	Answer
How can I change the frequency?	Frequency can be changed by reconfiguring the video card. Note that video card support can vary, depending on the version of the driver used. (Refer to the computer or the video card manual for details.)
How can I adjust the resolution?	Windows XP : Set the resolution at the Control Panel → Appearance and Themes → Display → Settings. Windows ME/2000 : Set the resolution at the Control Panel → Display → Settings. ※ Contact the video card manufacturer for details.
How can I set the Power Saving function?	Windows XP : Set the resolution at the Control Panel → Appearance and Themes → Display → Screen Saver. Set the function at BIOS-SETUP of the computer. Windows ME/2000 : Set the resolution at the Control Panel → Display → Screen Saver. Set the function at BIOS-SETUP of the computer. ※ Refer to Windows/Computer Manual
How can I clean the outer case/LCD Panel?	Disconnect the power cord and then clean the

monitor with a soft cloth, using either a cleaning solution or plain water.

Do not leave any remains of the detergent nor scratch the case. Do not allow any water to go inside the monitor.

▶ Self-Test

Self-Test Feature Check | Warning Messages | Environment | Useful Tips

Your monitor provides a self test feature that allows you to check whether your monitor is functioning properly.

▣ Self-Test Feature Check ▲

① Turn off both your computer and the monitor.

② Unplug the video cable from the back of the computer.

③ Turn on the monitor.

If the monitor is functioning properly, you will see a box in the illustration below.
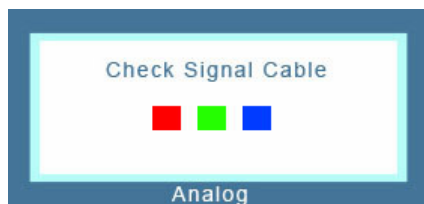
This box appears during normal operation if the video cable becomes disconnected or damaged.

④ Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

If your monitor screen remains blank after using the previous procedure, check your video controller and computer system; your monitor is functioning properly.

▣ Warning Messages ▲

If there is something wrong with the input signal, a message appears on the screen or the screen goes blank although the power indicator LED is still on. The message may indicate that the monitor is out of scan range or that you need to check the signal cable.
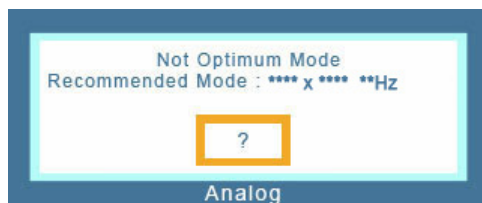
▣ Environment ▲

▷ The location and the position of the monitor may influence the quality and other features of the monitor.

   ▸ If there are any sub woofer speakers near the monitor, unplug and relocate the woofer to another room.
Remove all electronic devices such as radios, fans, clocks and telephones that are within 3 feet (one meter) of the monitor.

▣ Useful Tips ▲

▷ A monitor recreates visual signals received from the computer. Therefore, if there is trouble with the computer or the video card, this can cause the monitor to become blank, have poor coloring, noise,

Video mode not supported, etc. In this case, first check the source of the problem, and then contact the Service Center or your dealer.

▶ Judging the monitor's working condition

If there is no image on the screen or a "Not Optimum Mode", "Recommended Mode 1280 x 1024 60 Hz" message comes up, disconnect the cable from the computer while the monitor is still powered on.

▸ If there is a message coming up on the screen or if the screen goes white, this means the monitor is in working condition.
In this case, check the computer for trouble.

The color and appearance of the product may vary depending on the model, and the product specifications are subject to change without prior notice for reasons of performance enhancement.

O Specifications

Specifications   PowerSaver   Preset Timing Modes

▶ Specifications

General

Model Name	SyncMaster 711LT

LCD Panel

Size	17 inch (43 cm)
Display area	337.92 mm (H) x 270.336 mm (V)
Pixel Pitch	0.264 mm (H) x 0.264 mm (V)

Synchronization

Horizontal	30 ~ 81 kHz
Vertical	56 ~ 75 Hz

Display Color

16.7 M

Resolution

Optimum resolution	1280 x 1024@60 Hz
Maximum resolution	1280 x 1024@75 Hz

Input Signal, Terminated

RGB Analog
0.7 Vp-p ± 5 %
separate H/V sync, Composite H/V sync
TTL level (V high $\geq$ 2.0 V, V low $\leq$ 0.8 V)

Maximum Pixel Clock

135 MHz

Power Consumption

AC 100 - 240 V ~ (+/- 10 %), 50/60 Hz

Signal Cable

15pin to 15pin D-sub cable, Detachable

Dimensions (W x H x D) / Weight

370.0 x 342.3 x 69 mm / 14.6 x 13.5 x 2.7 inch (Without Stand)
370.0 x 404.3 x 200 mm / 14.6 x 15.9 x 7.9 inch (With Basic Stand), 6.2 Kg / 13.7 (lbs)

VESA Mounting Interface

100 mm x 100 mm (For use with Specialty(Arm) Mounting hardware.)

Environmental considerations

Operating	Temperature : 50°F ~ 104°F (10°C ~ 40°C) Humidity : 10 % ~ 80 %, non-condensing
Storage	Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Humidity : 5 % ~ 95 %, non-condensing

Plug and Play Capability

This monitor can be installed on any Plug & Play compatible system. Interaction of the monitor and computer systems will provide the best operating conditions and monitor settings. In most cases, monitor installation will proceed automatically, unless the user wishes to select alternate settings.

Dot Acceptable

TFT LCD panel manufactured by using advanced semiconductor technology with precision of 1 ppm (one millionth) above is used for this product. But the pixels of RED, GREEN, BLUE and WHITE color seem to be bright sometimes or some of black pixels could be seen. This is not from bad quality and you can use it without uneasiness.

For example, the number of TFT LCD sub pixels that is contained in this product are 3,932,160.

※ Design and specifications are subject to change without prior notice.

Class B Equipment (Information Communication equipment for residential use)

This product complies with the Electromagnetic Compatibility Directives for residential use and can be used in all areas including common residential areas.

(Class B equipment emits less electromagnetic waves than Class A equipment.)

Client

Item	Specifications
LAN	100 Mbps
USB	2.0 x 4Ports

Server Requirement

	Connect Client No	CPU	RAM	Ethernet	OS
Minimum SPEC	Just can load Server Program	P3 400 MHz	64 Mbyte	100 Mbps	windows 2003 Server
Recommend SPEC	1	P4 1.0 GHz	256 Mbyte		
	2~4	P4 2.4 GHz	512 Mbyte		windows 2003

| | 5~7 | P4 3.0 GHz | 1 Gbyte | | Server |
| | 8~10 | P4 3.2 GHz | 2 Gbyte | 100 Mbps | |

※ The content presented above is the result of testing a specific server. The information may change as the server may be different. For some products, the OS may not be supported. When purchasing a product, make sure to check whether or not the OS is supported.

PowerSaver

This monitor has a built-in power management system called PowerSaver. This system saves energy by switching your monitor into a low-power mode when it has not been used for a certain amount of time. The monitor automatically returns to normal operation when you press a key on the keyboard. For energy conservation, turn your monitor OFF when it is not needed, or when leaving it unattended for long periods. The PowerSaver system operates with a VESA DPM compliant video card installed in your computer. Use a software utility installed on your computer to set up this feature.

State	Normal Operation	Power saving mode	Power off EPA/ENERGY 2000
Power Indicator	Green	Green, Blinking	Off
Power Consumption	Less than 50 W	Less than 4.7 W	Less than 2.7 W

This monitor is EPA ENERGY STAR® compliant and ENERGY2000 compliant when used with a computer equipped with VESA DPM functionality.
As an ENERGY STAR® Partner, SAMSUNG has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

Preset Timing Modes

If the signal transferred from the computer is the same as the following Preset Timing Modes, the screen will be adjusted automatically. However, if the signal differs, the screen may go blank while the power LED is on. Refer to the video card manual and adjust the screen as follows.

Preset Timing Modes

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 640 x 480	31.469	59.940	25.175	-/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-

VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 960	60.000	60.000	108.000	+/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+

Horizontal Frequency

The time to scan one line connecting the right edge to the left edge of the screen horizontally is called Horizontal Cycle and the inverse number of the Horizontal Cycle is called Horizontal Frequency. Unit : kHz

Vertical Frequency

Like a fluorescent lamp, the screen has to repeat the same image many times per second to display an image to the user. The frequency of this repetition is called Vertical Frequency or Refresh Rate. Unit : Hz

The color and appearance of the product may vary depending on the model, and the product specifications are subject to change without prior notice for reasons of performance enhancement.

○ Specifications

Specifications   PowerSaver   Preset Timing Modes

▶ Specifications

General

Model Name	SyncMaster 911LT

LCD Panel

Size	19 inch(48 cm)
Display area	376.32 mm(H) x 301.056 mm(V)
Pixel Pitch	0.294(H) x 0.294(V)

Synchronization

Horizontal	30 ~ 81 kHz
Vertical	56 ~ 75Hz

Display Color

16.7 M

Resolution

Optimum resolution	1280x1024@60 Hz
Maximum resolution	1280x1024@75 Hz

Input Signal, Terminated

RGB Analog
0.7 Vp-p ± 5 %
separate H/V sync, Composite H/V sync
TTL level (V high $\geq$ 2.0 V, V low $\leq$ 0.8 V)

Maximum Pixel Clock

135MHz

Power Consumption

AC 100 - 240 V ~ (+/- 10 %), 50/60 Hz

Signal Cable

15pin-to-15pin D-sub cable, Detachable

Dimensions (W x H x D) / Weight

416.6 X 375.2 X 74.7 mm / 16.4 x 14.8 x 2.9 inch (Without Stand)
416.6 X 420.9 X 200.0 mm / 16.4 x 16.6 x 7.9 inch (With Stand) / 6.8 Kg / 15.0 (lbs)

VESA Mounting Interface

100 mm x 100 mm (For use with Specialty(Arm) Mounting hardware.)

Environmental considerations

Operating	Operating Temperature : 10℃~ 40℃ Humidity : 10 % ~ 80 %, non-condensing
Storage	Storage Temperature : -20℃~ 45℃ Humidity : 5 % ~ 95 %, non-condensing

Plug and Play Capability

This monitor can be installed on any Plug & Play compatible system. Interaction of the monitor and computer systems will provide the best operating conditions and monitor settings. In most cases, monitor installation will proceed automatically, unless the user wishes to select alternate settings.

Dot Acceptable

TFT LCD panel manufactured by using advanced semiconductor technology with precision of 1 ppm (one millionth) above is used for this product. But the pixels of RED, GREEN, BLUE and WHITE color seem to be bright sometimes or some of black pixels could be seen. This is not from bad quality and you can use it without uneasiness.

For example, the number of TFT LCD sub pixels that is contained in this product are 3,932,160.

※ Design and specifications are subject to change without prior notice.

Class B Equipment (Information Communication equipment for residential use)

This product complies with the Electromagnetic Compatibility Directives for residential use and can be used in all areas including common residential areas.

(Class B equipment emits less electromagnetic waves than Class A equipment.)

Client

Item	Specifications
LAN	100 Mbps
USB	2.0 x 4Ports

Server Requirement

	Connect Client No	CPU	RAM	Ethernet	OS
Minimum SPEC	Just can load Server Program	P3 400 MHz	64 Mbyte	100 Mbps	windows 2003 Server
Recommend SPEC	1	P4 1.0 GHz	256 Mbyte		
	2~4	P4 2.4 GHz	512 Mbyte		windows 2003

5~7	P4 3.0 GHz	1 Gbyte		Server
			100 Mbps	
8~10	P4 3.2 GHz	2 Gbyte		

Specifications   PowerSaver   Preset Timing Modes

PowerSaver

PowerSaver

This monitor has a built-in power management system called PowerSaver. This system saves energy by switching your monitor into a low-power mode when it has not been used for a certain amount of time. The monitor automatically returns to normal operation when you press a key on the keyboard. For energy conservation, turn your monitor OFF when it is not needed, or when leaving it unattended for long periods. The PowerSaver system operates with a VESA DPM compliant video card installed in your computer. Use a software utility installed on your computer to set up this feature.

State	Normal Operation	Power saving mode	Power off EPA/ENERGY 2000
Power Indicator	Green	Green, Blinking	Off
Power Consumption	Less than 50 W	Less than 4.7 W	Less than 2.7 W

This monitor is EPA ENERGY STAR® compliant and ENERGY2000 compliant when used with a computer equipped with VESA DPM functionality.
As an ENERGY STAR® Partner, SAMSUNG has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

Specifications   PowerSaver   Preset Timing Modes

Preset Timing Modes

If the signal transferred from the computer is the same as the following Preset Timing Modes, the screen will be adjusted automatically. However, if the signal differs, the screen may go blank while the power LED is on. Refer to the video card manual and adjust the screen as follows.

Preset Timing Modes

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 640 x 480	31.469	59.940	25.175	-/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-

VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 960	60.000	60.000	108.000	+/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+

Horizontal Frequency

The time to scan one line connecting the right edge to the left edge of the screen horizontally is called Horizontal Cycle and the inverse number of the Horizontal Cycle is called Horizontal Frequency. Unit : kHz

Vertical Frequency

Like a fluorescent lamp, the screen has to repeat the same image many times per second to display an image to the user. The frequency of this repetition is called Vertical Frequency or Refresh Rate. Unit : Hz

The color and appearance of the product may vary depending on the model, and the product specifications are subject to change without prior notice for reasons of performance enhancement.

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※ If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care center.

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Terms

Dot Pitch

The image on a monitor is composed of red, green and blue dots. The closer the dots, the higher the resolution. The distance between two dots of the same color is called the 'Dot Pitch'. Unit : mm

Vertical Frequency

The screen must be redrawn several times per second in order to create and display an image for the user. The frequency of this repetition per second is called the Vertical Frequency or Refresh Rate. Unit : Hz

Example : If the same light repeats itself 60 times per second, this is regarded as 60 Hz.

Horizontal Frequency

The time to scan one line connecting the right edge to the left edge of the screen horizontally is called the Horizontal Cycle. The inverse number of the Horizontal Cycle is called Horizontal Frequency. Unit : kHz

Interlace and Non-Interlace Methods

Showing the horizontal lines of the screen from the top to the bottom sequentially is called the Non-Interlace method while showing odd lines and then even lines in turn is called the Interlace method. The Non-Interlace method is used for the majority of monitors to ensure a clear image. The Interlace method is the same as that used in TVs.

Plug & Play

This is a function that provides the best quality screen for the user by allowing the computer and the monitor to exchange information automatically. This monitor follows the international standard VESA DDC for the Plug & Play function.

Resolution

The number of horizontal and vertical dots used to compose the screen image is called the 'resolution'. This number shows the accuracy of the display. A high resolution is good for performing multiple tasks as more image information can be shown on the screen.

Example :If the resolution is 1280 x 1024 , this means the screen is composed of 1280 horizontal dots (horizontal resolution) and 1024 vertical lines (vertical resolution).

For Better Display

Adjust computer resolution and screen injection rate (refresh rate) oncomputer as described below to enjoy the best quality of picture. You can have an uneven quality of picture in the screen if the best quality of picture is not provided in TFT-LCD.

- Resolution : 1280 x 1024
- Vertical frequency (refresh rate) : 60 Hz

TFT LCD panel manufactured by using advanced semiconductor technology with precision of 1ppm (one millionth) above is used for this product. But the pixels of RED, GREEN, BLUE and WHITE color seem to be bright sometimes or some of black pixels could be seen.
This is not from bad quality and you can use it without uneasiness.

- For example, the number of TFT LCD sub pixels that is contained in this product are 3,932,160.

When cleaning the monitor and the panel outside, please apply the recommended small amount of cleaner by using a soft cloth to polish. Do not force the LCD area but rub softly.
If excessive force is applied, you can have a stain on it.

If you are not satisfied with the picture quality, you can get better quality of picture by performing the "auto adjustment function" in display screen that is appeared as window termination button is pressed.
If there's still noise after the automatic adjustment, use the FINE/COARSE adjustment function.

When viewing a fixed screen for an extended period of time, a residual image or blurriness may appear.
Change the mode to energy save or set a screensaver to move the picture when you need to be away from the monitor for an extended period of time.

Authority

PRODUCT INFORMATION (Image Retention Free)

LCD Monitors and TVs may have an image retention when switching from one image to another especially after displaying a stationary image for a long time.
This guide is to demonstrate a correct usage of LCD products in order to protect them from Image retention.

○ **Warranty**
Warranty does not cover any damage caused by image retention.
Burn-in is not covered by the warranty.

○ **What is Image retention ?**
During normal operation of a LCD panel, pixel image retention doesn't occur. However, if the same image is displayed for a long time, a slight difference in electric charge accumulates between the two electrodes which encase the liquid crystal. This may cause the liquid crystal to build up in a certain areas of the display. Thus, the previous image is retained when switching to a new video image. All display products, including LCD,are subject to image retention. This is not a product defect.

Please follow the suggestions below to protect your LCD from image retention

---

○ **Power Off, Screen Saver, or Power Save Mode**
Ex)
• Turn the power off when using a stationary pattern.
　　- Turn the power off for 4 hours after 20 hours in use
　　- Turn the power off for 2 hours after 12 hours in use
• Use a Screen saver if possible
　　- Screen saver in one color or a moving image is recommended.
• Set the Monitor to power off with the PC Display Properties Power Scheme.

○ **Suggestions for specific applications**
Ex) Airports, Transit Stations, Stock Markets, Banks, and Controlling Systems
We recommend that you follow set up of your display system program as below:

○ **Display Information together with Logo or Moving image cycle.**
Ex) Cycle : Display Information for 1 hour followed by a
Display Logo or moving image for 1 minute.

○ **Change the Color Information periodically (Use 2 different colors).**
Ex) Rotate the Color Information with 2 colors every 30 minutes.

Avoid using a combination of characters and background color with large difference in luminance.
Avoid using Grey colors, which can cause Image retention easily.

• Avoid: Colors with big difference in luminance (Black & White, Grey)
Ex)

• Recommended settings: Bright colors with little difference in luminance
- Change the characters color and background color every 30 minutes
Ex)

- Every 30 minutes, change the characters with movement.
Ex)

1

KA1710 12:00

UA0110 13:30

2

AA0002 14:00
KA1710 12:00
FA7777 14:15
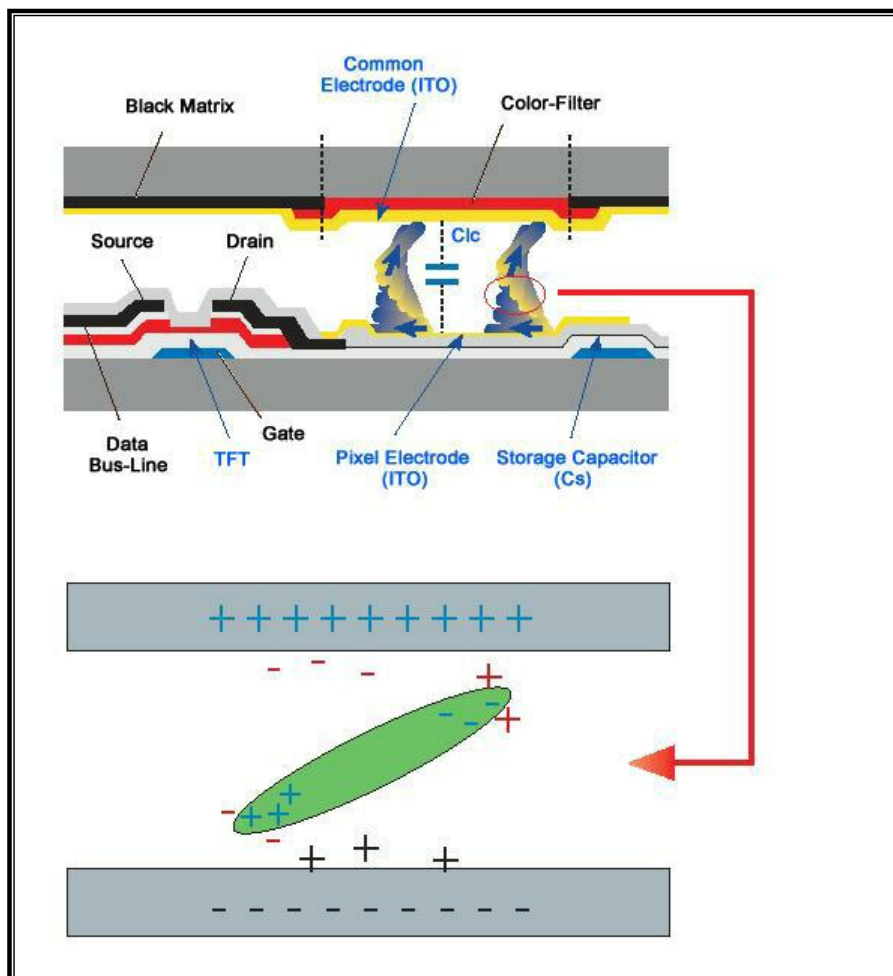UA0110 13:30

3

AA0002 14:00

FA7777 14:15

The best way to protect your monitor from Image retention is to set your PC or System to operate a Screen Saver program when you are not using it.

Image retention may not occur when a LCD panel is operated under normal conditions.

Normal conditions are defined as continuously changing video patterns. When the LCD panel is operated for a long time with a fixed pattern (-over 12 hours-), there may be slight difference in voltage between electrodes that work the liquid crystal (LC) in a pixel. The voltage difference between electrodes increases with time, forcing the liquid crystal to lean. When this occurs, the previous image may be seen when the pattern is changed.
To prevent this, the accumulated voltage difference must be decreased.

Black Matrix

Common Electrode (ITO)

Color-Filter

Source

Drain

Clc

Data Bus-Line

Gate

TFT

Pixel Electrode (ITO)

Storage Capacitor (Cs)

+ + + + + + + +

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Our LCD Monitor satisfies ISO13406-2 Pixel fault Class II